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The favored one crawled out, brushed himself off and walked away, unharmed.

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

April 7, 1951

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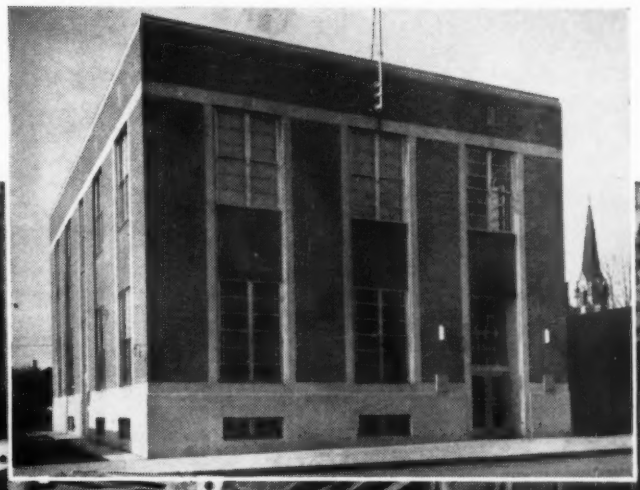
New Plymouth, Wis., Exchange and Eastern District Headquarters, Commonwealth Telephone Co.



Portion of 26-cell FME-21 Exide-Manchex Battery serving Plymouth Exchange.

A new exchange—another new installation of dependable

Exide-Manchex BATTERIES

The new Plymouth, Wisconsin, exchange of the Commonwealth Telephone Company cut over at 6:00 A.M., October 25, 1950. And helping to bring it into operation was a battery of 26 FME-21 Exide-Manchex Cells.

This new exchange has a capacity of 3000 lines, with 1400 lines serving 2159 stations now installed. The average traffic is 10,000 originating calls daily. Exide-Manchex power for the exchange consists of a 23-cell main battery, with 3 end cells, float operation.

The dependable performance and long life of Exide-Manchex Batteries assures the Plymouth Exchange of positive operation for many years to come. And, for your exchange, consider also the low-cost maintenance, the *all-round economy* you get with Exide-Manchex. For all stationary battery requirements—common battery, emergency reserve, signaling, PBX, and other applications—specify Exide-Manchex!

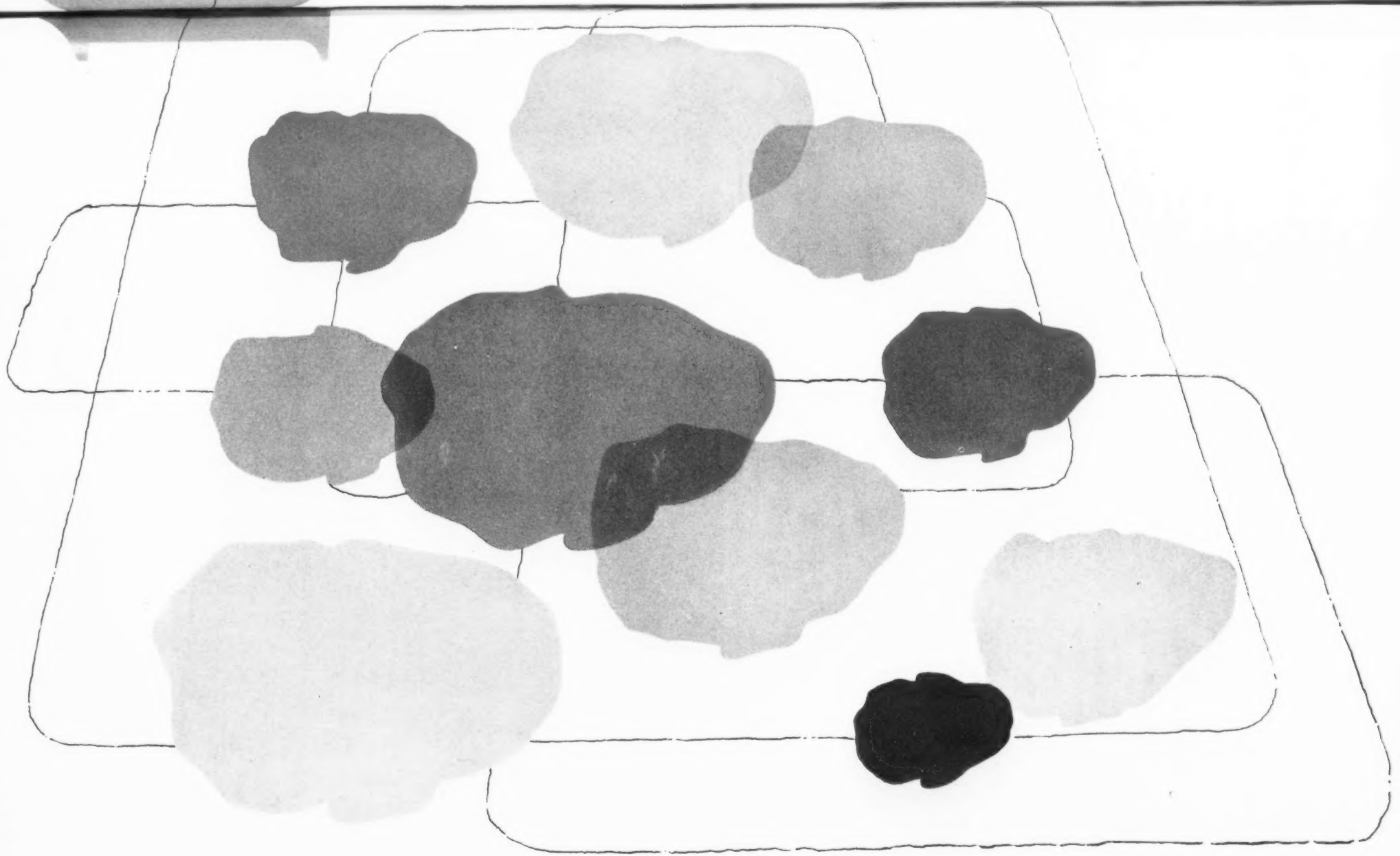
THE ELECTRIC STORAGE BATTERY CO., Philadelphia 2
Exide Batteries of Canada, Limited, Toronto

ONLY THE EXIDE-MANCHEX BATTERY GIVES YOU ALL THESE FEATURES:

- The exclusive long-life manchester plate
- Latest developments in molded glass jars
- Heavy terminal posts with copper inserts for greater conductivity
- Slotted plastic separators that are impervious to chemical and electrical reaction
- Plastic spacers that maintain plate alignment

"Exide" and "Manchex"
Reg. Trade-marks U.S. Pat. Off.

1883 . . . DEPENDABLE BATTERIES FOR 63 YEARS . . . 1951



HEROES YOU WON'T READ ABOUT IN THE NEWSPAPERS

These ten men are not bold, dashing, swaggering heroes. They're not famous for single-handedly capturing a dozen armed bandits. They are, rather, the quiet type whose fortitude, whose vision and boldness shines even brighter for us than that of the more popular version of a hero.

Actually these ten are telephone men. They're much too modest and too busy to want their pictures printed here. Their story starts with our story.

About three years ago our company developed a revolutionary new kind of dial switchboard. This represented six years of long patient work. It was called the Leich Dial System, and we were positive that we had created a better, easier, less complicated way to furnish dial switchboard service. It was especially designed for smaller exchanges which were most in need of this equipment.

We *knew* it would work. A trial switchboard had been in actual operation for over two years before we even announced it to the telephone industry.

Then we were ready for the crucial part of our drama. We had thousands of dollars, thousands of man-hours invested in a new kind of dial switchboard. We were sure it could help telephone men convert to dial operation more economically and profitably than ever before.

The question was . . . . . could we convince telephone men that we were right.

Nobody has to be more cautious in the selection of major equipment than a telephone man. If he's wrong on a major purchase . . . if his equipment doesn't work properly, he's practically out of business. Naturally he is going to want to see how the equipment he considers has worked for somebody else. Who can blame him.

There we were, simply bursting with enthusiasm, armed with facts and figures, *knowing* we had something. It was a neat little problem. All of our competitors could point to their dial switchboards in operation in a number of places.

Prospective customers may have thought there was room for improvement in the equipment then available, but they did know it would work. They could see it.

But ours . . . Well . . . it seemed like we really had something but . . . didn't we have any in operation. Or . . . when would we.

We knew what kind of telephone men we needed to show our baby to. They had to be men with the courage of their convictions: men who could see the practicalness of our new design, who could sell their co-workers on the idea and who could say finally, "I think you have what we need and I want one."

The ten men — real heroes in our book — who first signed orders for Leich Dial Systems are the heroes of our story. Not only did they see the advantages of our switchboard. Further, they had the rare and wonderful quality of being able to act on their own good judgment.

It would have been so much easier for these ten to have gone along with the crowd. To let somebody else prove the worth of the Leich Dial System.

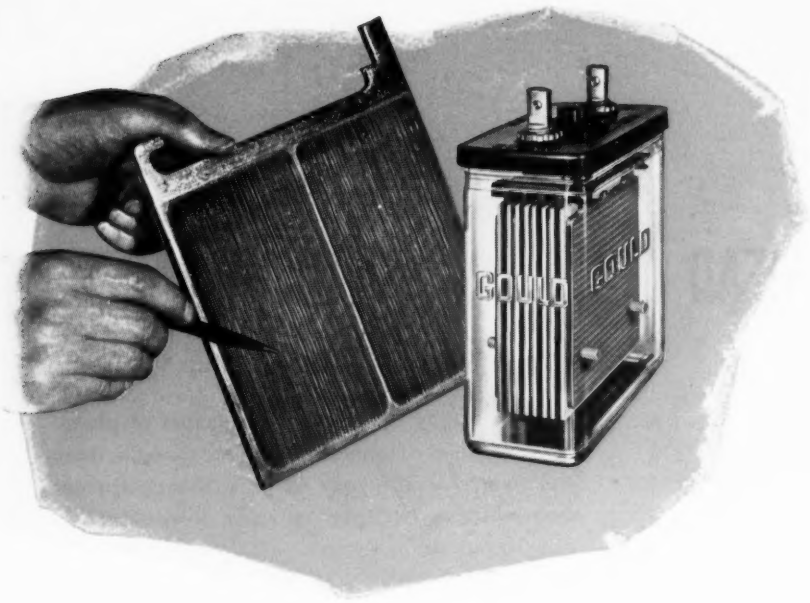
Everything is fine now. The Leich Dial System is one of the most remarkable product success stories in the telephone industry. Almost two hundred of them have been installed all over the United States. Even older, established makes of switchboards are now coming out with features that were originally presented in the Leich Dial System.

We folks at Leich will *never* forget those ten farsighted men who first told us that we had what they wanted.

We hope our gratitude will show as long as we are in business. If any of these ten ever want anything, you can be sure they can count on us.

Leich Sales Corporation, 427 West Randolph Street, Chicago 6, Illinois

LEICH MANUFACTURERS OF TELEPHONES, SWITCHBOARDS AND RELATED APPARATUS SINCE 1907



MAINTENANCE:
"They never need service . . . and I add water only half as often."

ACCOUNTING:
"Per annum cost is lowest. We can amortize them over many more years."

ENGINEERING:
"They discharge at high rate, longer . . . float at same voltage all their life."

They All Prefer GOULD PLANTÉ

PURCHASING:
"You never replace a Planté. You just don't live that long!"

Gould Planté batteries practically last forever. Many are still in active full-float service after 20, 30, even 40 years!

Planté plates are heavy, solid sheets of pure virgin lead. They contain *no* antimony. There is *no* migration of impurities from positive grids and grid frames to negative plates. Thus, Planté eliminates the primary cause of self-discharge, capacity losses and shortened battery life.

A huge reserve of pure lead continually replenishes spent active material. Voltage requirements and capacity remain constant throughout their long, low-cost life. These exclusive Gould features make

GOULD PLANTÉ

The Aristocrat of Stationary Batteries!

GOULD

STORAGE BATTERIES

GOULD-NATIONAL BATTERIES, INC.*

TRENTON 7, NEW JERSEY

Always Use Gould-National Automobile and Truck Batteries

*Formerly Gould Storage Battery Corporation

IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH
WASHINGTON EDITOR

Kefauver investigation may bring another anti-gambling bill of direct interest to telephone industry. L. W. Hill named head of NPA Communications Equipment Division. Forthcoming Controlled Materials Plan explained.

An Anti-Gambling Bill for Communications?

OFFICIAL Washington is still rubbing its eyes in the wake of the tremendous popular reaction to the scandalous disclosures of the Kefauver committee investigating organized crime. The television audience, which suddenly developed for this Senate investigation work, has amazed even the television industry. But political Washington is still uncertain about what the public reaction really means. It is simply taken for granted that there *is* a tremendous reaction, of one sort or another.

Offhand, one would think that the disclosures of organized criminal activity would shock the public conscience. But human nature is a funny thing. Last week, Washington racing bookies were reporting record breaking business and local newsstands were hard put, to keep from selling out of racing forms and allied turf literature. Far from being shocked, a lot of people seem to have awakened suddenly to the fact that it is possible to make a fast dollar on the bangtails.

Coming now to legislation which the Kefauver committee may recommend, we have something far more important to the telephone industry. It goes without saying that no good turn was done to the industry's public relations to have millions of television viewers hear prominent officials such as FBI Director Hoover and Senator Hunt (D., Wyo.) condemn the free and easy access of gamblers to the use of telephones and other communications services. There are too many people in this country, today, who legitimately need a telephone to feel happy about such testimony.

The people of the industry know the telephone companies' side of the argument. We know the great risk which the industry would run if it were to assume the responsibility of being the umpire of public morals, or an unofficial policeman for its own subscribers. But the television audience heard nothing about that. The telephone industry may well wonder just how much mischief was sown in the public mind, in consequence.

This much *is* known. An anti-gambling bill affecting communication industries is in the making. A ranking member of the Special Senate Committee to Investigate Crime in Interstate Commerce, headed by Senator Kefauver (D., Tenn.) told this to your correspondent. It will not be introduced, however, for several weeks, in order to leave the way clear for the committee's report. Appearing before the committee, Attorney General McGrath — supported by FBI Chief Hoover—urged prompt enactment of legislation "to prohibit the transmission of gambling information in interstate and foreign commerce."

Such a bill (S.3358) was approved by the Senate Interstate Commerce Committee during the last Congress, but did not come to a vote on the Senate floor. There was concern about this in the telephone industry, because of the possibility that such legislation might impose police duties on telephone companies. Although endorsing the suggested legislation, Hoover hinted that control of "gambling by wire" was, to a large extent, the responsibility of local law enforcement officers and local communications services.

Chairman Coy of the Federal Communications Commission (FCC) opposed any legislation for federal licensing of gambling communication. Such a bill, he said, would impose police duties on the FCC which that regulatory tribunal is not equipped to perform. He suggested that a better way to curb interstate gambling would be to outlaw interstate transmission of all "betting odds and prices paid" on all sporting events. He said this "would prevent newspaper and radio stations as well as other persons from transmitting the information."

New Head for NPA Communications Division

The top Washington spot news of the last week, from the telephone point of view, was the appointment of a new director of the National Production Authority (NPA) Communications Equipment Division. He is an Independent telephone man. More than that, he is so well known in Independent telephone circles, biographical description by this correspondent would seem a bit presumptuous at this point. In short, he is Luther W. Hill, Tarboro, N. C., known to his many friends as "Luke." However, since NPA got out a special release on the subject, it seems only fit and proper that this department carry such notice.

Luke Hill comes to Washington on leave of absence from his post as president of the Carolina Telephone & Telegraph Co. and the Home Telephone & Telegraph Co. of Virginia, with which he has been associated since 1943. Born in Darlington County, S. C., in 1892, Luke received B. S. and C. E. degrees from the University of South Carolina in 1915 and 1916. During World War I he was an Army Air Corps pilot. He was employed by the Southern Bell Telephone & Telegraph Co., from 1916 to 1943, holding supervisory engineering posts in Charlotte, N. C., and Atlanta, Ga. Luke is married and has one daughter. He is a director of the United States Independent Telephone Association, president and a director of the North Carolina Independent Telephone Association, and a member of the North Carolina Society of Engineers and the American Institute of Electrical Engineers.

Luke takes over the direction of the NPA communications equipment division from Gen. Calvert H. Arnold, retired Signal Corps officer, who had

been acting chief, pending the organization of the division. This division, which is responsible for the production and distribution of materials and special supplies for the communications equipment needed in the defense program and for essential civilian use, had to be organized from scratch. It is now composed of about 15 persons and is growing steadily. Telephone companies will hear more from the NPA Communications Equipment Division, before the present period of emergency controls is over. This will be especially true if the top-man, Mobilization Director Charles E. Wilson, goes ahead with present plans to start a control material program popularly known as the Controlled Materials Plan (CMP). Just why CMP is needed and just what is holding it up is another story.

ODM Hesitates on CMP

The Office of Defense Mobilization (ODM) has been kicking the CMP idea around for more than six months. The first actual steps were taken as early as the first of this year. The target date for actually putting CMP into effect is supposed to be Jul. 1. Subject to change without notice, this writer still believes that it will be Jul. 1. And what is CMP?

A brief description of CMP could become deceptively simple, for the reason that CMP is about the most complicated system of red-tape one could imagine. Yet, there seems to be no alternative to CMP, in view of the way the present loose system of "DO" ratings is breaking down. Right now a "DO" rating ("Defense Order") from NPA really is nothing much more than a fishing license—of little aid in getting really scarce material. So, at the risk of over-simplification, here's a thumbnail sketch of CMP and how it is supposed to work:

In a word, CMP is a plan for "earmarking" (by the government) certain scarce materials — copper and aluminum and steel. The nation's entire available supply is first lined up on one side. Next, the nation's entire demand is lined up on the other side. Then, NPA carefully sifts or "screens" all these demands, giving priority primarily to munitions and the defense needs, then to other essential industries, including utilities. In the process, certain less essential demands are cut off entirely (such as aluminum ash trays, brass door knockers and similar ornamental and dispensable lines). Some other demands are cut back sharply, or curtailed (such as the amount of "trim" or "bright work" used in manufacturing new automobiles).

When these two steps are completed (and the process has actually been going on, under a series of NPA orders ever since the first of the year) the Defense Production Administration (DPA) balances the total supply against the total demand. Despite all the cutbacks and cutoffs, the demand will *still* fall short. So, then comes the really tough part of CMP—slicing up the available supply into lump allotments for various industries, according to their rank of essentiality.

The resulting "slices," or allotments, are then doled out on paper to the different government agencies and NPA divisions, for channelling to the different industries of the nation. NPA Communications Equipment Division will be handling the material rations for the telephone industry. Other utilities will be handled by the Interior Department (for gas and electric) the Interstate Commerce Commission (for the railroads, street-cars, buses, etc.) and Agriculture Department (for farm producers and REA borrowers).

It is not going to be easy. Not by a long shot! NPA men figure they will have to get out about 45,000 forms. During World War II, a similar CMP took 25,000 government employes to operate. This time, it could take more. Imagine, if you will, all the products of which aluminum, copper, and steel is a component item, and you will have some idea of the complexity of this plan.

But it does have the advantage of accounting, theoretically, for every pound of copper, aluminum, and steel from the smelter right down to the "end products," such as copper wire, machine tools, etc. Only in this way, can the "flow" of the scarce material supply be controlled and strictly channelled into preordained necessary production.

For instance, the fluorescent lamp manufacturer will send his form to the NPA. He'll show how many lamps he's been producing and where they went; how his third quarter orders will shape up; and how much copper and steel he needs for his product. He'll also state how much other critical material, such as tungsten, he needs.

NPA will tally up requests from all the lamp companies. It will then decide how many lamps should be produced. NPA will then assign a tentative ration of steel and copper to the lamp making fraternity as a group. This allotment, together with other rations of steel, copper, and aluminum for other products, will be taken to an interagency requirements committee. There, various claims will be debated. Perhaps the Agricultural Department will think more steel should be allowed for hand tools and less for lamps.

Defense Production Administration Director William Harrison (DPA) will have the final say. He'll be guided by board policies on military needs and civilian requirements.

(Please turn to page 39)

ANNOUNCE TRAIN SCHEDULES FOR USITA CONFERENCE

The New York Central Railroad has announced train schedules for those planning to attend the Executives Conference of the United States Independent Telephone Association, which will be held on May 14 and 15 at the Greenbrier Hotel, White Sulphur Springs, W. Va. The announcement follows:

"Extra sleeping cars have been reserved for USITA members, consisting of bedrooms and roomettes. These cars will leave Chicago on the New York Central (Big Four Route) from Central Station, Michigan Ave. and Roosevelt Rd., at 1:00 p.m. (2:00 p.m. Daylight Saving Time) on Saturday, May 12. This train will stop at Lafayette, Ind., at 3:35 p.m. and Indianapolis at 5:10 p.m. Central Time and arrive in Cincinnati at 9:05 p.m. Eastern Standard Time, where cars are delivered to the Chesapeake & Ohio leaving at 10:10 p.m., and arriving in White Sulphur Springs at 7:40 a.m.

"For the return trip extra cars are available from White Sulphur Springs at 5:50 p.m. on Tuesday, May 15, operating via Toledo, Ohio, and arriving in Chicago 11:59 a.m. (12:59 p.m. Daylight Saving Time) on May 16.

"For delegates from Cincinnati, Indianapolis and Lafayette we have a bedroom car leaving White Sulphur Springs at 12:20 a.m. on Wednesday, May 16, arriving in Cincinnati at 8:45 a.m.; Indianapolis at 10:35 a.m.; Lafayette at 12:05 p.m., and Chicago at 2:55 p.m. (3:55 p.m. Daylight Saving Time)."

JAPAN'S RECOVERY and TELEPHONE SERVICE

- Telephones and Bombs. Japan's Experience and Its Value to the United States.

By HOWARD F. VAN ZANDT

PART III

EXECUTIVES of many telephone companies are now trying to determine what would happen to their employes and their plants in the event the nations of the world were drawn into another full scale war, and the United States assailed by the aerial might of a powerful foe. It is difficult for them to decide what to do, or not to do, in preparation, for the telephone industry of the United States has never been affected by warfare at home, and they cannot draw upon their past experience for guidance.

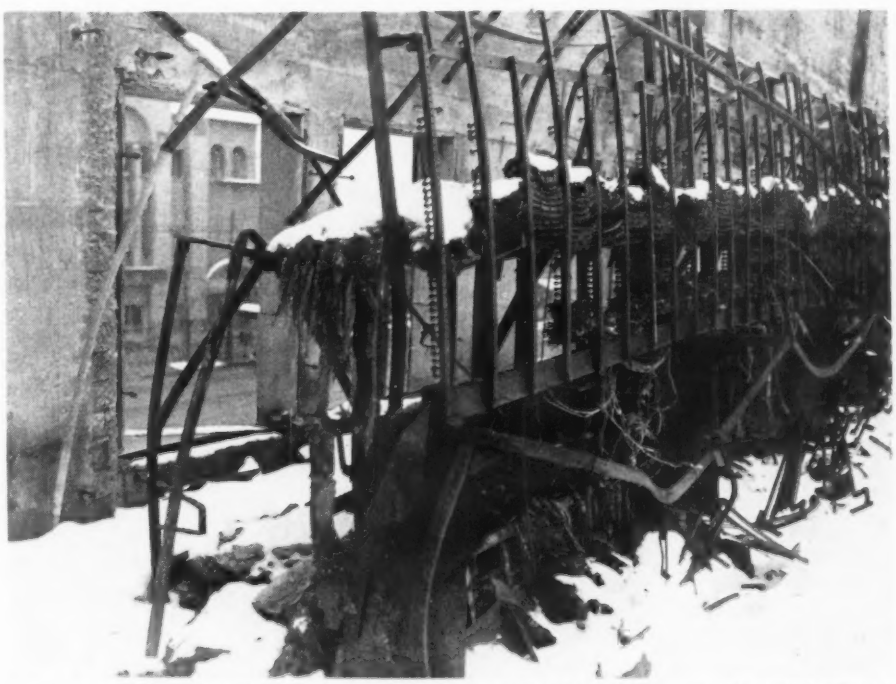
In solving other problems where previous experience has not been avialable to help point the way, it has usually been possible to study carefully, experiment, and then in closely supervised trials to develop equipment and procedures. In the case of defense measures against all-out bombing, however, telephone management realizes the impossibility of employing this same procedure. It is obviously not practical to set off a small atomic bomb in some telephone laboratory in order to study the consequences.

Yet the United States is, more than any other country, dependent upon its telephone system in time of peace, and would be even more so in time of war. The responsibility of telephone management to the public is correspondingly grave, and dependable means must be found to maintain telephone service if war should come. Fortunately, in devising defensive measures, American telephone officials may profit by the experience of the Japanese, for what happened in Japan in World War II is the best example available of what might happen to the United States. Study of the defense measures developed by the Japanese, and the effect of atomic and other types of bombing against these defenses, should give Americans practical answers to questions which up to now have necessarily been answered theoretically.

The atomic bombing of Hiroshima and Nagasaki in the last days of the war are, because of their grim significance, better known to Americans than the conventional type bombing raids that earlier laid approximately 175 Japanese cities and villages in ashes. It is possible that, out of fear of reprisal, in the next world war neither side will dare to use atomic bombs, much as neither side used poison gas in World War II, or has yet used atomic weapons in Korea. Even if this should prove to be the case, however, warfare will still be dangerous and horrible. Records indicate that in Japan two and one-half times as many people were killed by incendiary and explosive bombing and by strafing as by atomic bombs. More people were killed in Tokyo in one evening in a B-29 raid than in Hiroshima by the atomic bomb.

According to studies made by the U. S. Air Force, the damage inflicted by bombs was about equal in Germany and Japan. There were 66 principal target cities in Nippon, and American

This telephone office in Sendai was gutted by fire-bombing. The temporary magneto switchboard shown in the picture gave service for two years after the disaster.



A manual switchboard in Tokyo seven months after being bombed. There were 54 central offices in Tokyo, of which six were burned out during incendiary attacks. Although 59 per cent of the city as a whole was destroyed, only 11 per cent of the telephone offices were put out of service. Wise planning by Japanese telephone people saved the telephone system from the heavy loss experienced by the general public.

planes attacked them all, destroying an average of 43 per cent of the built-up area. In one city, 99.5 per cent of the built-up area was burned. This city, Toyama, oddly enough was the most remote from American bases of all cities attacked! Besides the 66 primary target cities, American bombers caused heavy destruction in over 100 small towns and villages. Bombs used on Japan were largely of the incendiary type—74 per cent of the total. Between Mar. 1, 1945, and Aug. 10, 1945, 2,400,000 buildings were bombed out of existance in Japan. Of these less than 100,000 were in Hiroshima and Nagasaki. A total of 8,750,000 Japanese were made homeless. Casualties among the civilian population approximated 750,000 of whom about half died.

After the bombing started on a large scale in March, 1945, the Japanese learned rapidly which of their defense measures were failing, and took remedial action as quickly as possible. In most instances, however, it was not possible to complete major defensive measures started after the March raids. Shortage of materials, breakdowns in transportation, and the speed with which the country collapsed prevented completion. Fortunately for the Japanese public, however, the telephone system had started making preparations against possible attack following the Doolittle raid of 1942. Most of the major defenses had already been built prior to March, 1945, for Japanese leadership had been jarred into action by the attack from "Shangrilah," as President Roosevelt described the carrier from which the Doolittle raid was launched. Japan's rulers knew then that if Uncle Sam could strike once he could do it again, and again—and he did!

In making their preparations the Japanese had hard practical experience to draw from. They had been fighting in China on a broad scale since 1937, and their successes had permitted them to occupy and study most of the cities they had bombed. It would require writing a manuscript of book length to cover the important measures taken by Japanese telephone people, and to narrate their experiences. Much of what they did stood up well under the test of all out bombing. Many of their measures failed, or proved to be a waste of time and money. There were a number of things that they did not do, because the war was over before they had an opportunity, but which Japanese engineers now strongly advise that Americans consider.

A program to protect a telephone system in time of war from the air, atomic or otherwise, falls into three phases, viz:

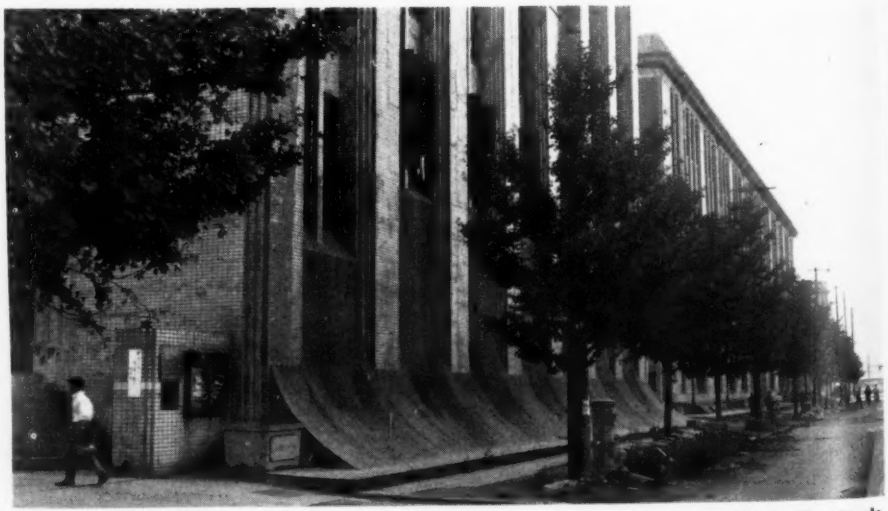
(1) Long term preparations.
(2) Measures to be taken immediately before and during attack.
(3) Advance preparation for temporary restoration of service.

Space will not permit a discussion of the score or more of major responsibilities born by each department of the Japanese telephone system in carrying out its role in each of the three phases. By way of illustration, however, one activity for each department, either performed by the Japanese, or recommended, will be mentioned with the thought that it will suggest in the minds of readers a course of action for them to consider in protecting their own telephone system.

I. Long Term Preparations.

(A) Plant. The Japanese found it well worth while to construct emergency bomb-proof exchanges in the basements of dial and common battery offices that were located in reinforced concrete buildings. Buildings made of brick or wood may be expected to burn, or be flattened by an atomic bomb, so no money should be wasted upon them. The top two floors even of reinforced concrete structures will probably be destroyed by atomic bombing, or from conventional type bombs. In the basement bomb-proof exchange a magneto switchboard should be installed and put in working condition.

Glass window panes being unobtainable, wooden slats were provided for this building in Sendai in order to keep out rain and wind.



The ground floor of buildings is not safe in time of bombing because bombs, exploding in the streets, blow in windows and doors. This building, the central telegraph office in Tokyo, was so important to the Japanese that they constructed a concrete apron to protect the ground floor from bomb damage.

It should be large enough to serve the essential users in the surrounding area.

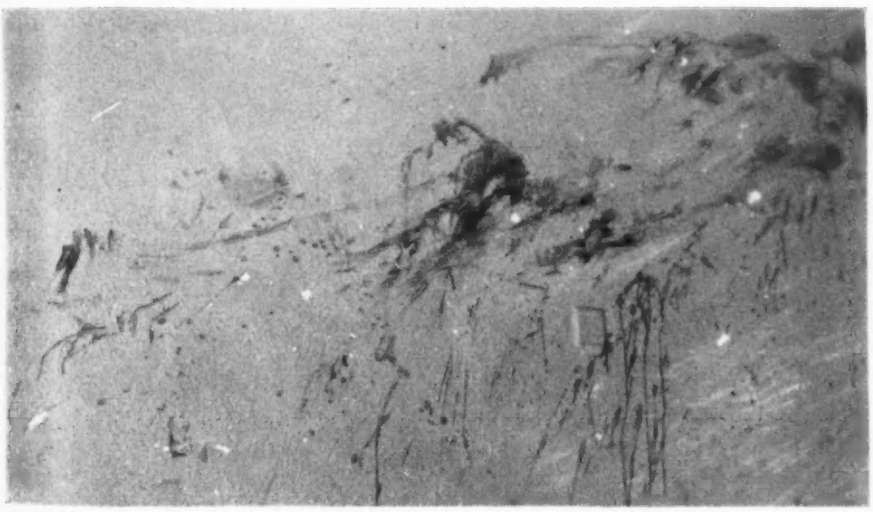
(B) Traffic. Develop a plan for handling traffic for an indefinite period after bombing by using emergency magneto switchboards. Both toll and local lines should terminate on these boards. After magneto service has been installed for essential users—which should be done before the country is attacked, if possible—offer service during the business hours of each day over these switchboards. The Japanese found that this practice was invaluable both in training the public, and in training operators.

(C) Commercial. Develop rates and regulations governing "emergency" telephone service for essential users. Sell this service, and arrange for installation of telephones at the safest place on the premises of each user. Teach subscribers how to use the service, and to recognize its limitations. Work out the "kinks" before an emergency develops.

(D) Management. Determine what company records are indispensable. Have them copied, and stored in fireproof vaults several miles away from the telephone installation they pertain to. Arrange for microfilming if appropriate. Be certain that explanations accompany duplicate records. The Japanese estimate that restoration of service in much of Hiroshima was delayed from six months to a year because duplicate records were unavailable, or if available, could not be understood and used effectively.

II. Measures to Be Taken Immediately Before, and During Attack. (For Example as Soon as an Air-Raid Alert Signal Is Received.

(A) Plant. Close steel air-raid doors and windows. The Japanese found that a steel outer door or window, fitted into deep grooves on both sides, and firmly at top and bottom was strong enough to protect personnel from anti-aircraft fragments, flying bits of masonry, and bomb blasts. They believe that had they had these steel doors and windows at Hiroshima that the casualty rate among employes would have been greatly reduced except in one building which was under the bomb, and in which loss of life was 100 per cent (389 people). The steel doors and windows would, they believe, mitigate the force of the atomic blast sufficiently to save people from injury from being blown over, and in particular, would save them from being cut by flying glass. The author saw parts of five operators who had been killed when a glass door blew through them and imbedded them in a plaster wall. A steel outer door would have saved them.



Bloody hand prints on wall of stair case in Telecommunications Headquarters Building in Hiroshima. The Japanese believe that with the knowledge and experience gained at Hiroshima and Nagasaki they would be able to save most of the telecommunications employes in time of atomic attack.

Even if it is only with a table in a gutted building and a sign saying "telecommunications consultation place" as here in Sendai, the commercial department must be prepared to open for business following a devastating air raid. Mr. Van Zandt is shown discussing defense measures taken by the Japanese.

(B) Traffic. Issue steel helmets and thick quilted floor length robes to operators who are to serve the switchboards in regular operating rooms during the air-raid. The Japanese learned that helmets and robes offer considerable protection against falling plaster, and flying glass and masonry. All headgear and garments should be white, for atomic burns are much less severe if people are covered with white cloth than if with colored or black material. Arms and hands should be sheathed in white gloves. If an operating room is located on the top floor, or next to the top floor, and an air-raid alert indicates the enemy plane is of atomic bomb carrying type, don't try to man the operating room during the raid.

(C) Commercial. Assign personnel to handle emergency business during raids. Attacks may last several hours, and someone must be accessible so that public defense and similar agencies may be able to contact the telephone office if urgent. The ground floor of buildings is not considered safe unless the building has inner walls, because bombs exploding in the streets may blow in doors, walls, and windows. An emergency station for business office employes should be in a safe place, and one which is well marked.

(D) Management. Notify management in nearby cities of imminence of air-raid, and request that they alert plant, traffic, commercial, and management relief crews to be ready to give assistance. The Japanese recommend that if an atomic bomb is dropped, no one in the affected area be permitted to work for at least a month, regardless of whether he thinks he was injured by atomic radiation or not. This

(Please turn to page 36)

THE PAUSE . . . . . • THAT REFRESHES!

By EARLE BLOMEYER
VICE PRESIDENT & KENTUCKY MANAGER
SOUTHERN CONTINENTAL TELEPHONE CO.
ELIZABETHTOWN, KY.

ALTHOUGH I lived for a number of years in the state of Georgia, very close to the home of that great soft drink that originated in Atlanta, the title that I have chosen for this article is not intended to be an advertisement for that drink. However, neither have I just picked that title out of thin air with the hope that it will attract a little interest to an article that might otherwise be entirely overlooked.

It is customary in every business to take stock now and then, either by taking inventory of physical goods, or by making financial reports to the stock holders. At that time, the owners of each business are in effect pausing to refresh their outlook on the business. The pause gives those owners a chance to determine whether the business has prospered, to determine whether it is in better shape than it was the last time a review was made, and to determine whether any changes are required in order to improve the business. In some businesses, this pause that refreshes is only made once a year, but in almost every business it has become an indispensable part of good management.

Many individuals have also acquired the habit of pausing in their daily routine of work in order to refresh themselves, although this pause is generally only one for relaxation, nourishment, or entertainment, rather than for reflection upon the past or consideration of the future. This habit has become almost universal by the application of rest periods to many types of work, such as the rest periods provided in many operator schedules in our own industry.

The pause for rest and relaxation that has become an integral part of our daily lives certainly has great value in enabling each of us to perform a better type of work throughout the entire day. But, as valuable as that pause is, I would also like to suggest that each individual adopt the practice of most businesses, and also pause periodically in the work that you are doing in order to review your methods and practices to determine whether or not you are still applying the fundamentals upon which your industry was founded.

You do not have to be a genius in order to learn the telephone business. If that were required, I can assure you that this article would never have been written, and I strongly suspect that if it had been written it would have a much smaller group of readers. The basic requirement for this business, as for almost any business, is a little common sense mixed with a little technical knowledge. The required portion of technical knowledge must have some practical experience to back it up, but a large part of that knowledge can be obtained from study.

The Chinese are known for the manner in which they venerate their ancestors, and the knowledge handed down from those ancestors. In China, the fundamentals of a business have been passed down from father to son for centuries, and many businesses today are run in exactly the same fashion as they were run ages ago.

We Americans do not have the same traditions for following in our father's footsteps, and many of our businesses, such as the telephone business, are comparatively new. Still, there are certain fundamental theories and practices that have been developed with this business, and these fundamentals have not changed materially since the first telephone exchange was established. We who are engaged in this business can profit by pausing occasionally to refer to those fundamentals and refresh our memory of them, so that we can be able to apply them constantly.

I will agree with you that there have been many changes in methods since our business originated. During the past few years we have seen the rapid improvement of many things that have contributed to the development of the telephone business. Mobile and point-to-point radio systems have become a commercial reality. New, improved, and cheaper carrier systems have made it possible for us to add toll circuits at an amazing rate. New operators' headsets, new methods of supporting aerial cable, and hundreds of other improvements have made our work easier and our service better.

However, *we are essentially still using the same fundamentals for furnishing service that were being used long ago.* We are still using essentially the same type of manual switchboards that were first designed for both magneto and common battery service. The first type of automatic system developed by our industry is still being manufactured today. I was interested to note advertisements not long ago in the trade magazines stating that the dial in use today is essentially the same in size, shape, and design, as the dial produced in 1909. Our industry is a little over 75 years old, and for over half of that period we have been using fundamentally the same dial.

I will also agree with you that times have changed rapidly during the past few years. Without a doubt, we have much greater demands for service today than ever before in the history of our industry. We certainly have much greater governmental regulations today than ever before during peacetime. We are undoubtedly faced with more problems than ever before due to the greater complexity of our present social and economic surroundings. However, the very fact that we have more problems than ever before, is the very

reason why it will pay each of us to constantly review the fundamentals of our business with a pause that will refresh our outlook on the myriad problems confronting us, and quite possibly will suggest a new approach that will assist in solving some of these problems.

You may wonder why I am attempting to offer any advice in solving some of those applications of the fundamentals of this business, when I am not one of the pioneers that founded the business, and when the majority of those who read this article probably have had much more experience in this industry than I have had. Even though I am not an old-timer in the business, I have one big advantage over the majority of those engaged in the industry, in that I am able to copy the Chinese, and draw upon the experience of my father for guidance. I have been even more fortunate than most of those of you who have also had fathers engaged in this same business, since I have not only grown up into the business, with my father's advice, but I have also had the good fortune to be able to follow advice that has been expressed on numerous occasions by my father very clearly in writing, so that I have been able to retain that advice for constant reference.

One of the best known series of articles that has ever been written for the telephone industry was a series written by my father, E. C. Blomeyer, when he was president of the Texas Telephone Co. at Waco, Tex. Those articles were first printed in TELEPHONY, and were later reprinted in booklet form in 1920 by the United States Independent Telephone Association, and I consider myself fortunate to be able to have a set of those booklets, and to be able to refer to them whenever I wish to do so. Although those articles are now over 30 years old, each one is still just as true today as it was the day it was written.

Those articles were written in the form of a series of letters to the managers of the Texas Telephone Co., explaining the fundamentals of the business and giving good advice in language that could be understood by anyone. Although times have changed considerably in more than 30 years since those articles were written, they were concerned with expressing fundamentals, and there is very little in any article that has become out of date. Of course, there have been some minor changes, but those changes have not affected the context of the articles in any manner.

The rate of interest has decreased since 1920, as Letter No. 3, entitled "The Reason Behind the Rates," indicated that the rate of interest at that time on real estate loans was around 8 per cent, and it is certainly lower than that now. Along with a decrease in the rate of interest, the rate of depreciation has also decreased, since, on the average, our plant today is lasting longer than it used to. However, the fundamental principles underlying the determination of a reasonable rate for a telephone exchange are not changed by a change in the rate of interest or a change in the rate of depreciation. Those principles are just as true today as they were in 1920, and just as true today as they will be in another 30 years.

It is unfortunate that the series of articles I have mentioned is now out of print, and probably very few copies remain in existence. I wish that others, like myself, who have entered the telephone business during the past 30 years could have an opportunity to study some of the fundamentals outlined so clearly in these articles. However, it is not necessary to have access to those particular articles in order to become well acquainted with the fundamentals of our business. It is only necessary to read the many well-written articles that are printed every year in the trade magazines, and if possible attend the state and national conventions of our associations, in order to read and hear those fundamentals expressed time and time again.

It has become almost a hobby of mine to try to recognize ideas as they are expressed in magazine articles and convention speeches and identify them with the same ideas as expressed in the "Letters to Managers Series" written by my father 30 years ago. Not long ago I went to see a movie that I had heard was entertaining, and as the story unfolded before my eyes, I slowly began to realize that I knew what was coming even before it happened. Near the end of the movie I finally understood the reason for this apparent foresight, as I realized that the movie was based upon a story that I had read some time before, and almost forgotten. Many times I have had that same feeling when listening to speeches at conventions, only to realize that I am hearing an idea expressed that is familiar to me, even though it is being expressed in different words.

In order to illustrate my point, I would like to quote a portion of the speech given at the 1950 convention of the United States Independent Telephone Association by George Brewer, Chicago, director of labor relations of the Gary Group, a member of the USITA Employment Relations Committee. Mr. Brewer spoke on the subject, "Employe Morale Is Important," and he stated in part: "Very briefly I have given you some of the important management blessings to be associated with the achievement of good employe morale. In rapid summary these blessings I have talked about are: (1) Increased productivity; (2) sound public relations; (3) employe cooperation to make management's supervisory job easier; . . ."

Now, as a comparison to the ideas expressed by Mr. Brewer about the advantages of good employe morale, I would like to quote from my father's "Letters to Managers Series" that expresses essentially the same ideas. In comparison to the idea that good employe morale will bring increased productivity, Letter No. 8, entitled, "You & Me & Jim" stated: "It is that thing which changes a number of men and women, all working together in the same business, from simply a crowd of individuals, to a close-knit, smoothly-running, efficient and dependable business organization."

In comparison to the idea that good employe morale will bring sound public relations, Letter No. 2, entitled "Public Relations and the Manager," stated: "If you are ashamed of the company you are working for, and are accustomed to 'run down' its policies, its management, its plant, or business methods, can you or the company blame the people of your town if they don't go out of their way to praise it?"

In comparison to the idea that good employe morale will bring employe cooperation to make management's supervisory job easier, Letter No. 4, entitled "The High Cost of Supervision," stated: "Some of the supervision is what we might term natural or necessary supervision—just simply the natural routine or 'checking off' the job and marking 'finish' to it, to make the records complete. But a lot, and a very great lot of it, could certainly be dispensed with in an organization such as our own, if every one of us could make ourselves so dependable that we could be counted upon to do whatever there was to be done; to do it promptly and, above all, to do it right!"

These quotations are samples of the familiar ideas that I have been able to recognize time and time again in various articles and speeches. The soundness of those ideas and conclusions is definitely demonstrated by the fact that so many writers, including the author of the Letters to Managers, and so many speakers, all working separately,

(Please turn to page 37)

MAINTENANCE TESTING EQUIPMENT

By JOHN A. BRACKEN

PART XXXVIII. The preceding article in this series appeared in the Feb. 10 issue, p. 29.

OCCASIONALLY it happens that in replacing a defective common battery switchboard cord, the tip and ring conductors are reversed. When this occurs, the cord connections are transposed at the cord fasteners as shown in *Fig. 1*.

In this case the battery will be connected to the tip of the cord plug and ground to the ring. Each time an operator uses this cord to make a busy test of a subscriber's line, a false busy will be obtained. This condition is serious and likely to cause a customer trouble report, due to the fact that the operator may plug into the line jack over a busy.

Furthermore, should the operator plug the transposed cord into a four-party line jack, where the ringing current is applied to one side of the line and through the station set ringer to ground, and ring a particular party, the cord connection will ring reversed and the wrong party will answer.

To test for a reversed tip and ring of a cord at the switchboard by means of the test set referred to in *Fig. 1* in Part 37 of TELEPHONY (Feb. 10, p. 29), proceed as follows:

(1) Insert the plug of a spare regular switchboard cord that has been converted for testing purposes by having test clips attached to the tip, ring and sleeve conductor terminals, into the test set "CB1" jack.

(2) Place test set key K1 in its normal position.

(3) Connect ground to the test set "GRD" binding post.

(4) Operate key K2.

(5) Connect the testing cord sleeve conductor test clip to the tip of the switchboard cord plug suspected of being reversed.

(6) Depress the test set key K3. If a milliammeter reading is obtained, the switchboard cord tip and ring conductors are reversed.

If the ring and sleeve conductors of the cord are reversed, as shown in *Fig. 2*, the cord circuit supervisory lamp will not light when the cord is used because of the presence of battery on the cord sleeve conductor.

This condition may be traced on the answering cord part of a typical common battery cord circuit shown in *Fig. 5*. To test for this fault, connect the cord sleeve conductor test clip to the ring of the suspected cord at its plug. Leave keys K1 and K2 as they were and depress K3. If the test set meter needle is deflected, the cord connections are reversed. If the tip and sleeve of the cord are reversed as shown in *Fig. 3*, it will be indicated on the test set meter when the test cord sleeve test clip is connected to the tip of the cord and key K3 depressed.

Occasionally a condition develops in a common battery switchboard cord circuit known as a "hot" cord and plug, which is a result of various causes such as:

(1) Faulty construction of the cord plug wherein the insulation between the tip and ring or sleeve is defective. When the plug is placed in service and the defective insulation is being subjected to the pressure of ringing power and battery voltages, there is a flow of current from one conductor to another, which develops heat. This condition will continue until in time the insulation is destroyed at the weak point. If the insulation breakdown is slight, no outward effect will be noticed, but trouble will soon develop with attempts to use the cord. This type of trouble is manifested in scratching, hissing and

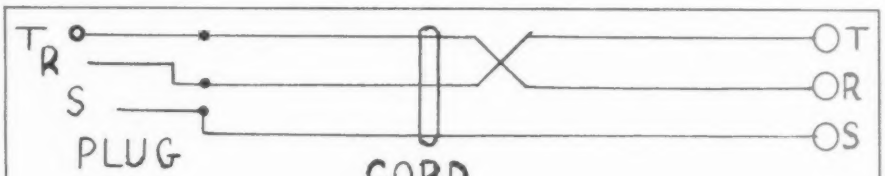


Fig. 1

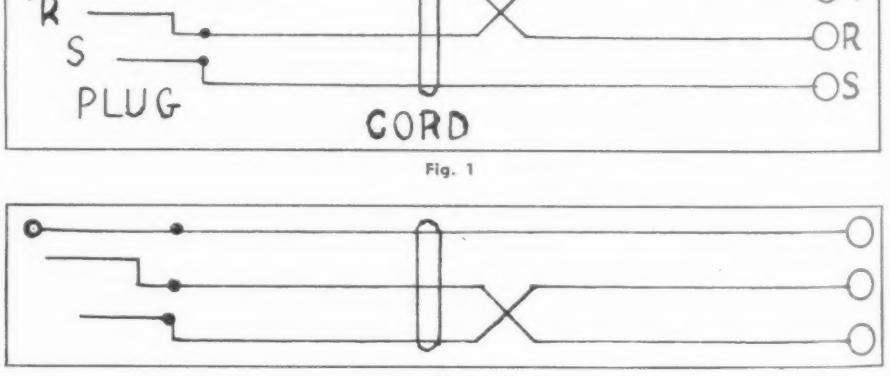


Fig. 2

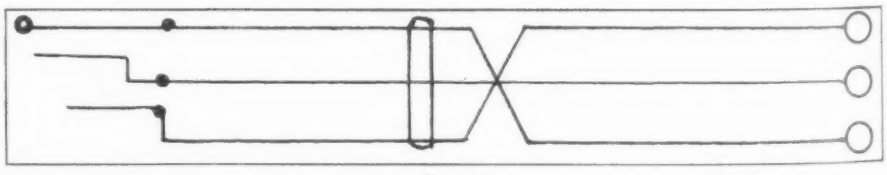


Fig. 3

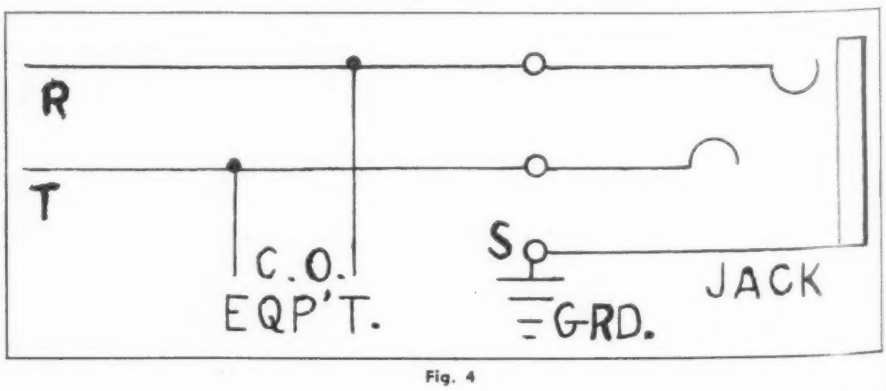


Fig. 4

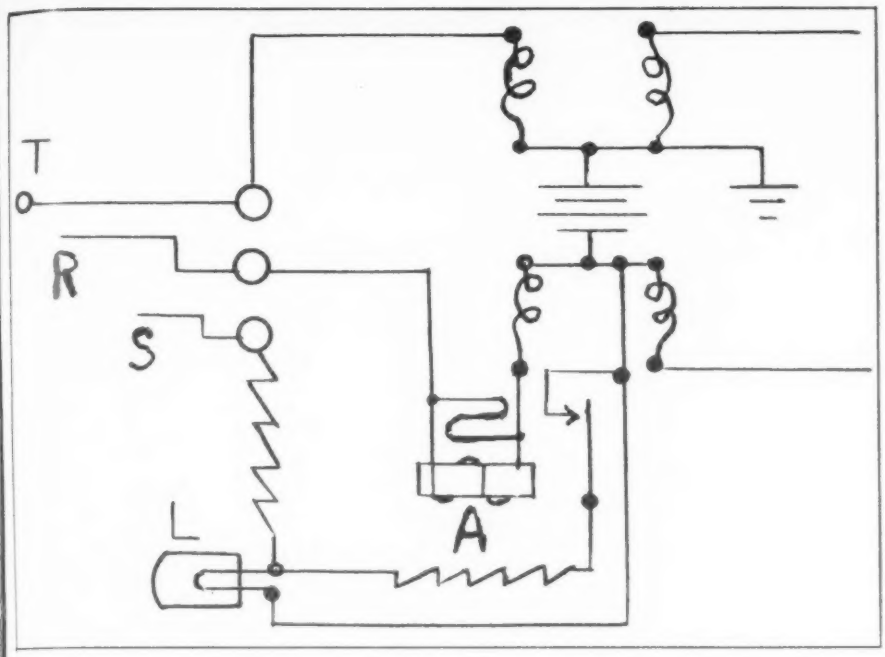


Fig. 5

frying sounds, or failure of the cord entirely.

(2) A "hot" cord and plug can also be caused by the continued grounding of the cord circuit battery at the ring of the plug when an operator is making a busy line test by inserting the switchboard cord plug too far into the line jack sleeve. When this is done, contact is made between the sleeve of the jack and ring of the plug. In many types of common battery switchboards in which the sleeves of line jacks are grounded as shown in the simple line circuit in *Fig. 4*, a small arc is set up between the plug and jack sleeve.

(3) A switchboard operator may form a habit of touching the tip of one cord plug to the ring of another cord plug just to see a spark between them, or to watch the supervisory signal operate. Although these last two conditions in themselves appear to be insignificant, if they are continued the insulation within the plugs may be burned, and eventually cause the plug insulating material to carbonize.

Carbon being a conductor of electricity, the carbonized plug insulation reaches a state that offers very little, if any, resistance to the flow of the circuit battery current, and results in a flow of sufficient current to heat the cord conductors.

Troubles as described above can be prevented by carefully inspecting and testing the switchboard plugs and cords at regular intervals for cut-outs, opens, short circuits, crosses, reversals and etc. *(To be continued)*

Telephone Rates Up Only 18% Since War

A recent resume of telephone rate increases, particularly those put into effect by Bell System companies, was given in an Associated Press release, with a New York City date line, which appeared in newspapers over the country.

The American Telephone & Telegraph Co. reported that its Bell System subsidiaries have received 441 million dollars a year in rate increases since the war. These affect all the 48 states.

Bell companies also have requests pending for increases in 26 states which, if granted in full, would add an estimated 191 million dollars to their annual revenues.

No precise figures were given on the total of increases granted to Independent companies, but the percentages have been about the same as for Bell companies, the article said.

AT&T was quoted as saying that the increases for the Bell System companies authorized thus far by state and city regulatory commissions average slightly over $1.00 a month a telephone. In terms of total revenue, they come to 18 per cent. If the full amounts of the pending increases should be received, the company was reported to have said that the average still would be below 25 per cent.

By comparison, it was brought out that the consumer's price index has increased 80 per cent since 1940, food about 130 per cent, automobiles over 90 per cent, and the cost of building a house 120 per cent.

The article continued:

"The telephone companies' costs have been going up like those of their customers. The Bell System's labor bill alone, officials say, has increased 818 million dollars a year or nearly double the amount of increases in rates to date. Materials used in the industry have gone up sharply—lead 228 per cent and copper 112 per cent, for example. But for research developments on cost saving methods, they add, the companies would have had to ask for considerably larger increases.

"Taxes have complicated the situation both for customers and the companies. AT&T estimates taxes on Bell System service average $2.65 a month a telephone. About half is levied on the companies and half in the form of federal excise taxes that are added to the companies' charges to customers and included in monthly bills. . . .

"The increasing rates apparently spell the doom of the nickel coin box call which already has disappeared in many places in favor of the 10-cent rate.

"The New York Telephone Co. took the occasion of the end of the 45-year reign of the five-cent call to make a few comparisons. When it was inaugurated in 1906, said the company, you could reach only 200,000 telephones compared with 3,600,000 with a dime now. Back then, besides buying a telephone call, the nickel also would pay for a loaf of bread, with two cents more it would get a quart of milk, and three nickels would buy a pound of round steak."

V V

Fire Losses on Increase Says Board of Underwriters

Fires destroyed an estimated $69,136,000 in American property during February, an increase of 18.5 per cent over losses for the same month a year ago, it was announced on Mar. 20 by Lewis A. Vincent, general manager of the National Board of Fire Underwriters.

The February total was also an increase of .7 per cent over that of the preceding month. January's losses this year were estimated at $68,686,000.

For the twelve months ending Feb. 28, 1951, fire destruction amounted to an estimated $709,119,000. This represents an increase of $44,770,000 or 7 per cent over the fire loss total for the twelve months ending Feb. 28, 1950.

V V

"There is no hope for this city, nor this nation, if the citizenry does not do the right kind of thinking in regard to the fighting of Socialism so apparent in America today. Bitter denunciation of the principles of Socialism and Communism in speech amounts to nothing if, while blasting socialistic policies verbally, citizens fail to fight it in practice."—Minden (La.) Herald.

THE PLANT MAN'S *note book*

BY RAY BLAIN TECHNICAL EDITOR

A NEW nylon typewriter ribbon is on the market made in sixteen yard lengths. This ribbon lasts longer and provides sharper, clearer typing.

• • •

It has been said: "Too many people stop looking for work when they get a job."

• • •

The writer recently witnessed a demonstration of a new type of toggle switch. The contacts of this switch may be hermetically sealed. Instead of a switch lever, the contacts are opened and closed by means of an external magnet that moves the magnetic armature located inside the sealed case. This novel design should prove most useful in the communications field on all types of equipment where exposed contacts might prove objectionable.

• • •

It is noted that the Western Union Telegraph Co. has installed many pay telephones recently to replace attended offices. These telephones are connected directly to an operator in the main office and are equipped with a coin box so that prepaid telegraphs may be dispatched expeditiously. This arrangement appears to be as satisfactory as attended service.

• • •

The annual report of the Pacific Telephone & Telegraph Co. indicates that that company has installed and removed over 10,000,000 telephones since the end of World War II to gain a total of 1,600,000.

In the west, too, there has been a mushrooming of rural population. The Pacific company has added during the past five years more than 170,000 telephones in farm homes, community stores and rural establishments of various kinds.

At the close of the late war, 43 per cent of rural establishments had telephone service. Today, although more and more people keep moving to the country, over 63 per cent have telephones. Moreover, telephones continue to be installed in large numbers in rural localities. About 29,000 telephones were added during 1950.

• • •

Someone has said that some persons think they have a dynamic personality if they occasionally explode.

• • •

We are advised upon good authority, by one Dave Solomon, Signal Corps engineer, who has been commuting regularly by air of late between Washington, D. C., and Alaska, that Alaskans have a novel arrangement for removing ice loading from open wire lines in the northland.

When the wires become loaded and are nearing the breaking point the ice is vibrated off by flying low along the line in a small plane. We understand that the bush pilots are quite adept at this chore.

Dave is becoming quite an authority on the provision of sub-zero communications.

• • •

Recently, the writer was grounded by a snow storm at Port Columbus, Columbus, Ohio, and was required to ride a special bus from that point to Dayton. Knowing that we would arrive at Dayton rather late, we decided to telephone and confirm our hotel reservations. The five public telephones soon accommodated the 30 some grounded passengers who had the same mission in mind, as the calls were all handled with dispatch.

• • •

The rapid increase in extended area dialing is creating various problems for telephone companies. In many of these localities, customers may be charged from one to five or more units for each call, and this charge may be doubled each three or five minutes. In the days of manual operation, this condition did not present the problem that it does today with the rapid increase in the use of the dial. This new type of service may prove expensive for customers on large PBX switchboards because of a considerable number of unauthorized extended area calls. A minor clerk may make several multi-unit personal calls daily as there frequently are no means of checking and locating these expensive leaks.

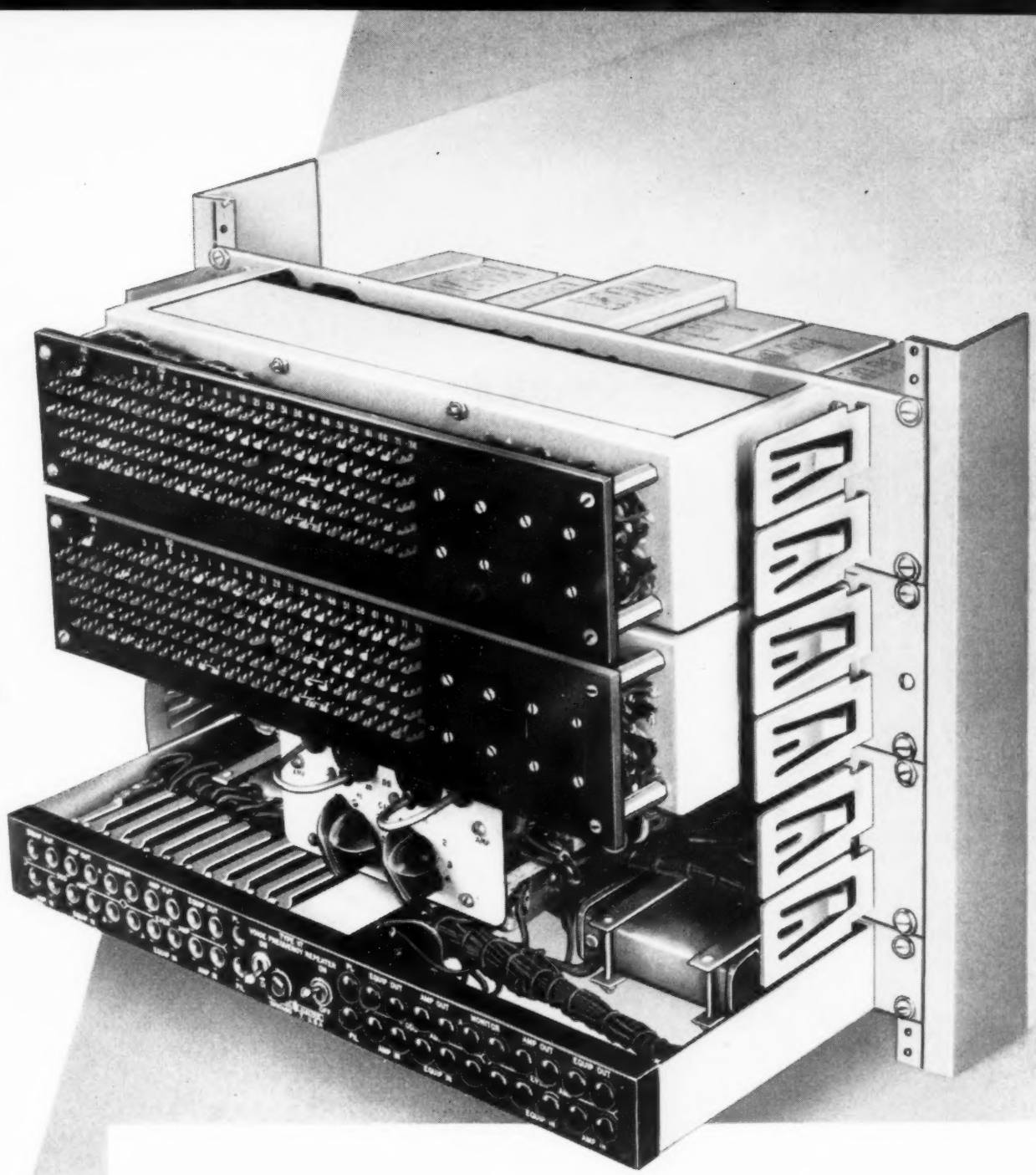
It would seem that about the only answer to this problem, at the present time, is to make use of some form of automatic toll ticketing. Provision of equipment that will furnish the following information, as a minimum, appears essential: Originating end indication. Calling number. Called number, duration of conversation and date and time of day. By the use of a suitable translator, these data could then be readily converted into billing information.

• • •

Because complex communications equipment must be carefully maintained if it is to function at its best—or function at all—the Army Signal Corps has launched an intensive program to instruct communications personnel in the importance and technique of maintaining and operating their particular equipment.

"Maintenance advisory teams" have recently been established in all Signal Corps Depots. The teams are composed of highly skilled electronics technicians selected for their ability to teach as well as their technical knowledge. Additional teams are also being obtained on a contractual basis, from industry. They are being further augmented with supply specialists, so that a well rounded program of instruction is available.

These teams are visiting army installations and assisting military units in solving their communications maintenance problems. Emphasis is placed on the importance of having equipment at peak performance and ready for combat at all times.



Unit Construction

Components can be selected for 2-wire or 4-wire circuits, for intermediate or terminal operation (intermediate, 2-wire repeater shown above). Compact assemblies mount in minimum vertical space on 19" rack. Individual units can be quickly isolated for routine tests and maintenance.

High Volume Boost

Higher-than-ordinary amplifier gain gives maximum volume because choice of 61 line balancing units permits precise impedance matching. Choice of three low-pass filters — 3500, 2850, 2450 cps — for various circuits, eliminates "singing," permits use of highest gain.

Automatic Cut-thru

In case of power or tube failure, the line remains operative. Relays automatically cut the repeater out of the line without disrupting transmission; these relays can also be wired to provide an alarm. Normal operation resumes automatically when power is restored or tube is replaced.

Courts and Commissions

Hush-A-Phone Files Answer to FCC Order

The Hush-A-Phone Corp. of New York filed formal exception to a Federal Communications Commission decision that telephone companies are within their rights in prohibiting "foreign attachments" on telephone equipment (TELEPHONY, Feb. 24, p. 22).

The company said it believes its patented device for quiet telephoning is one the public should be able to use freely.

In February, the FCC, in an initial order in the case, said unrestricted use of the device could result in lowering the quality of telephone service. Hush-A-Phone's president, Harry C. Tuttle, asserted tests showed the device "actually causes a net increase in transmission efficiency of the telephone circuit."

The hush-a-phone is a cuplike attachment, which, according to its makers, slips over a telephone transmitter to produce "privacy, office quiet or quiet wire."

V V

Hamilton, Tex., Exchange Gets First Increase in 14 Years

An ordinance granting a rate increase of approximately 22 per cent to the Gulf States Telephone Co., Tyler, has been passed by the Hamilton, Tex., city council. The new rates, which become effective May 1, will add from 25 cents to $1.00 to the customer's bill each month.

It is the first raise in rates granted the company in 14 years.

There is no state regulatory body in Texas.

V V

State Supreme Court Overrules Ohio Bell Rate Plea Appeal

The Ohio Supreme Court Mar. 28 held that the Ohio Public Utilities Commission was not in contempt of court for having failed to carry out the court's mandate in the Ohio Bell Telephone Co. rate case.

In another ruling dealing with the same controversy, the court overruled an appeal of the telephone company from the commission order last Dec. 26, in which the company contended the commission's order was "unreasonable and unlawful." (TELEPHONY, Jan. 20, p. 27.)

Six cities, including Columbus, Cleveland, Akron, Toledo, Dayton and Canton, had filed the contempt action with the court Mar. 6. They charged the commission had failed to carry out the court's order which had instructed the commission to deduct $37,555,808, which was an excess of depreciation reserve over the existing depreciation.

As a result of the court's decisions in the two cases, final determination of the depreciation account to be adjusted still rests with the state supreme court.

V V

N. J. Bell Agrees to Extend Rate Increase Date to June 20

The New Jersey Bell Telephone Co. Mar. 27 agreed before the New Jersey Public Utilities Commission to extend until June 20 the date when its proposed increase of $9,800,000 in telephone rates would go into effect.

Under the law the proposed higher rates would have become effective Apr. 21 but the case will not be completed by then. Thomas G. Walker, vice president and general counsel for the company, stipulated the extension after a commissioner fixed dates beyond that time for further cross-examination of company witnesses.

Apr. 25 and 26 and May 16, 17, 23 and 24 were scheduled as dates for further examination.

V V

Peninsular Raps Commission In Rate Increase Denial

The Peninsular Telephone Co. in a prepared statement on Mar. 27 charged that refusal of the Florida Railroad & Public Utilities Commission to grant it a rate increase would probably retard a 6 million dollar expansion program.

The company also criticized the commission as "severely penalizing" the company because it operates on an efficient and economical basis.

The commission in its order held that Peninsular was making more than 6 per cent annual return on its investment, and termed the percentage "fair" and "adequate."

In a scathing answer to the order, the company replied that the commission recognized in its order the trend in Peninsular's return is downward.

". . . It indicates that we would have to spend ourselves into a losing position before expecting rate relief. This is not a thing sensible businessmen or careful investors find it easy, or hasten to do," the company answered.

Lewis Petteway, general counsel of the commission, said that the average increase asked by the company was 27 per cent.

The company disputed this figure, declaring: "The increases were slightly less than 19 per cent over-all in exchange revenue, based on the year 1950. This is not an estimate, it is a figure subject to mathematical calculation."

The company statement cited that it has not been granted any rate increases for many years, that "greatly increased operating costs, both wages and materials, have occurred since then."

It added that it managed to operate successfully because of very economical and efficient management, and is now being asked to continue operations and expansions on the same revenues despite increasing costs.

"It can hardly be expected, however, that this order will provide the assistance that should be provided for the thousands of waiting installation orders, for the overloads on plant because of exceptional growth, and for meeting fully of the requirements for future growth which we confidently expect," the answer by the telephone company reported.

". . . We cannot afford either as a company or an area to face retarded communication development. It seems apparent that if any other company in the state, or the country, operated

(Please turn to page 30)

As easy as that!

Guests arriving in a few hours . . . all the week-end marketing still to do . . . and the car battery stone dead! A telephone call brings a replacement battery in a hurry . . . and Mrs. Fox is off to town.

• • •

In back of the ready "Number Please" of the operator—or the invitation of the dial tone—there is a dramatic story of continuing *research*, of skillful *manufacture* and dependable *operation* written by America's telephone industry.

Western Electric's part in this story is to manufacture the kind of telephone equipment which helps to make this reliable service possible.

Western Electric

TELEPHONE APPARATUS AND CABLE

The recent ice storm in the south took a great toll in pole lines as evidenced by these photos from Louisiana.

the Peninsular system, presumably less efficiently and economically, rate increases would have already been granted. . . ."

"The company expects to do all it possibly can to meet the requirements of the area it serves with all it has at its disposal, . . ." the statement continued.

Peninsular officials also rapped the commission as driving off potential investors of new capital, and thus weakening the company's financial position.

"Reference by the commission to the present strong position of the company is pleasing," the statement noted; "It is axiomatic, however, that progress results from making the weak, strong; not in requiring the strong to become weak.

"Reference is also made in the order to the efficient and economical company operation; but there is little satisfaction in this accomplishment to either operating personnel or willing investor, called on for new capital eight different times in the past five years . . . if this worthy characteristic is to be so severely penalized . . . 'penalized,' because the Peninsular company is the only company in the state of any size, and to our knowledge in the United States, which has not had at least one increase . . . since 1945.

"In a country where economic progress has set world standards, proficiency and efficiency have usually held forth some hope of reward."

The company complained that the commission forced it to operate on a "skin and bone" base. It maintained that the commission's order points out that the rate of return is falling; and will continue to fall with expenditure of money for additional growth.

"This is not a fortunate situation at a time when substantial amounts of new capital for expansion are required," the company answer stated.

"Because of government controls over use of materials required by our company in the construction program planned for the year, this program involving the expenditure of approximately 6 million dollars will be difficult to accomplish at best."

The statement was released by Carl Borein, president of the Peninsular company.

V V

$5,300,000 Annual Increase Asked by New England T&T

To offset recent increases in expenses the New England Telephone & Telegraph Co. on Mar. 30 proposed rate increases aggregating $5,300,000 a year for consideration by the Massachusetts Department of Public Utilities. Wages and taxes represent the major elements in rising costs. The petition points out that these increased costs were not and could not have been anticipated in the 1949 rate proceedings, and declared that the new rates now asked for constitute the amount required to bring the company a rate of return of 6.23% on invested capital established by the Massachusetts Supreme Court in its recent decision (TELEPHONY, Mar. 10, p. 30; Mar. 24, p. 18).

The court had directed the company to work out new schedules to provide a minimum net return of 8.5 per cent on stock capital and 6.23 per cent on reinvested surplus.

Under the new rates sought, base charges for residence customers would remain unchanged. Changes in monthly base rates for business customers would rise from 50 cents to $1.00. Other proposed changes are a five-cent increase in certain toll rates for distances above eight miles; elimination of volume discounts for additional message units in excess of 500 per month; and higher charges for private switchboards, trunk lines and miscellaneous special services.

Commenting on the petition, Hugh W. Macdonald, Massachusetts general manager of the company, stated that last October wage increases totaling $3,500,000 per year were negotiated and made effective for all employes in that state. Wages constitute the largest cost item in the telephone business, with taxes second. Since 1949 the federal income tax has increased from 38 to 47 per cent, and unemployment compensation taxes have risen from 0.5 per cent to 2.7 per cent. These substantial increases have not yet been reflected in rates. The earnings have fallen below the minimum found by the court. A 4.5 per cent increase in operating revenues is needed. Including this, the average over-all cost of service to the user would be about 18 per cent since 1939, or far below the 82 per cent increase in general prices for the same period.

V V

Utah Rate Increase Requested By Mountain States T&T

The Mountain States Telephone & Telegraph Co. asked Mar. 19 for permission to boost its telephone rates in Utah.

The application, filed with the Utah Public Service Commission, asked increases of approximately $1.00 per month for residence telephones and $1.00 to $3.50 for business telephones.

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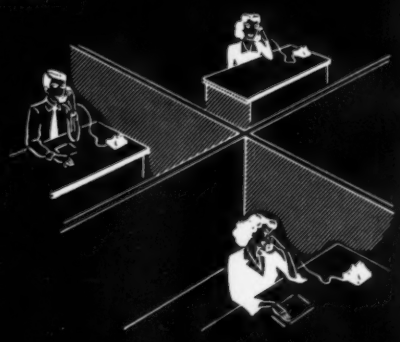
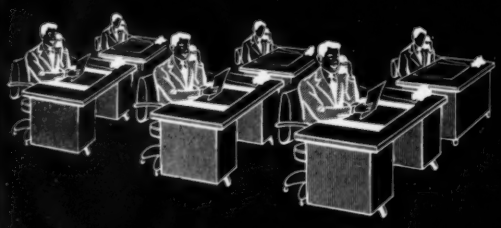
wasteful "legaphone communications" in offices of your business subscribers



HELP

them to make inter-departmental contact more efficient



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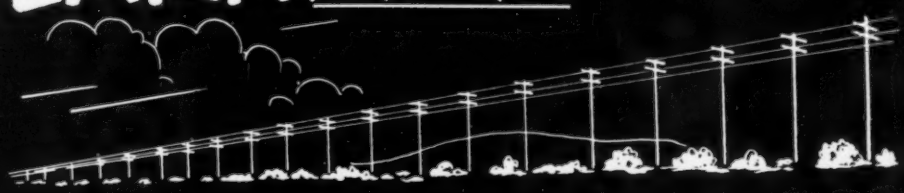

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FCC Bars Inductive Recorder Until Tone-Warning Available

In a notice issued on Mar. 28, the Federal Communications Commission stated that until such time as a tone-warning device can be developed to operate with an inductive type recorder, the use of an inductive recording device in interstate and foreign service would appear to be contrary to commission order of June 30, 1948, allowing the use of recorders with tone-warning devices in interstate and foreign telephone conversations.

The text of the commission notice follows:

In a proceeding entitled, *In the Matter of the Use of Recording Devices in Connection with Telephone Service, Docket No. 6787*, 11 FCC 1033, the commission investigated the use of devices for recording telephone conversations in connection with interstate and foreign message toll telephone service. On Mar. 24, 1947, the commission adopted its final report in this case; and, on Nov. 26, 1947, it adopted an order to make the report effective; this order was modified in certain repects by an order of May 20, 1948. As modified, the commission's final order became effective on June 30, 1948. The commission's orders authorized the use of recording devices in connection with interstate and foreign message toll telephone service, subject, however, to specified conditions intended to insure that all parties to the telephone conversation have notification that telephone recording devices are being used.

Pursuant to the requirements of the commission's orders, the various telephone companies have since filed with the commission tariff schedules permitting the use of recording devices in connection with interstate and foreign message toll telephone service, subject to the condition that "connection of customer-owned voice recording equipment with the facilities of the telephone company shall be made only through recorder-connector equipment which contains a recorder tone device automatically producing a distinctive recorder tone that is repeated at intervals of approximately 15 seconds when the recorder equipment is in use. Permanent connection shall be made only through recorder-connector equipment furnished, installed and maintained by the telephone company."

It is the commission's understanding that similar tariff regulations applicable to the use of recording devices in connection with local and intrastate telephone service have been filed by the telephone companies with the respective state regulatory commissions.

No provision is made in the above tariff schedules for the use of recorders operated on the inductive principle, as distinguished from a direct physical connection to the telephone line. It is the commission's understanding that no tone-warning device has yet been developed which is able to give a warning tone on the telephone circuit when being used with an inductive type recorder. Accordingly, until such time as a tone-warning device of this nature is available and installed, the use of an inductive recording device in connection with interstate and foreign message toll telephone service would appear to be contrary to the orders of the commission and the tariff regulations filed pursuant thereto by the telephone companies.

Data made available to the commission in connection with a recent informal investigation indicate that widespread violations of the requirements of the order of the commission pertaining to the use of the tone-warning signal, and the tariff regulations filed pursuant thereto by the telephone companies may exist. Accordingly, the commission has this date sent letters to the American Telephone & Telegraph Co. and the United States Independent Telephone Association, requesting that measures be taken to assure vigorous enforcement by the telephone industry of the applicable tariffs.

It should be noted that under the provisions of the Communications Act of 1934, as amended, (47 U.S.C. §151 ff), and Sections 203 (47 U.S.C. §203) thereof in particular, the tariff schedules filed with the commission by the telephone companies are binding upon those companies and the public, unless and until they are set aside as unlawful by this commission or a court of competent jurisdiction. Accordingly, failure to use recording devices in compliance with the requirements of such tariff provisions may subject the user to appropriate enforcement proceedings provided for in Section 401 and 411 of

Federal CSX

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This recent 150-line cutover at

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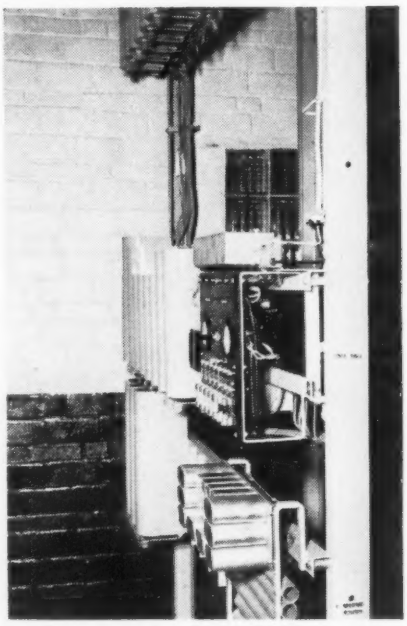
for United Telephone Co. of Pennsylvania, a subsidiary of United Utilities, Inc., is typical of Federal CSX for small or medium-size installations.



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the Communications Act (47 U.S.C. §§401 and 411), as well as termination of his service by the telephone company.

A copy of the Communications Act of 1934, as amended, may be obtained for the sum of 20 cents from the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C.

V V

Oklahoma Mutuals Seek Protection of Territory

Some of the mutual telephone companies in Oklahoma, organized before any Rural Electrification Administration cooperatives existed, are becoming disturbed over the prospect of legislation that would permit invasion of territory of existing cooperatives and mutuals, as well as telephone companies.

B. Richardson, telephone engineer of the Oklahoma Corporation Commission, states that two Oklahoma mutual telephone companies, one the largest in the state, have submitted their territorial maps to the commission recently and have asked protection against any invasion of their territory. The commission has no jurisdiction over the rates of non-profit telephone organizations.

The Oklahoma convenience and necessity law, which applies to all public utilities, protects a public utility against duplications of its plant or services by others when it is giving adequate service. For several years the commission has accepted maps defining territorial boundaries of companies or areas in which they state they are willing to install telephones.

In many cases where it was proven that an area is receiving no telephone service and cannot obtain it reasonably soon, the commission has declared that area to be "open territory" for any organization that is able and willing to serve.

The state supreme court has held that the commission cannot force a telephone company to go into the "open territory" and serve it.

V V

Mutual Increases Rates

The Pandora (Ohio) Mutual Telephone Co. has raised its residence rates from $5.75 to $6.00 per quarter.

The business rate was increased to $10.50 per quarter.

V V

Summary of Commission Rulings and Hearings

California Public Utilities Commission

Mar. 26: Order listed authorizing Gilroy Telephone Co. to increase rates and to issue 10,000 shares common stock.

Mar. 26: Listing of complaint by Doehart Corp. requesting commission's order suspending Pacific Telephone & Telegraph Co. rules relating to the Tele-Magnet device.

Mar. 26: Listing of complaint by A. J. Jenner as to service rendered by Associated Telephone Co., Ltd., Santa Monica.

Mar. 26: Application listed of California Water & Telephone Co., Monrovia, for authority to issue 40,000 shares common stock.

Illinois Commerce Commission

Apr. 4: Hearing on application of Hardin County Telephone Co., Cave-In-Rock, for authority to increase rates at Cave-In-Rock, Elizabethtown and Rosiclare; and Illinois Bell Telephone Co. to increase rates at all exchanges.

Apr. 5: Hearing on application of Woodlawn Telephone Co. for authority to increase rates.

Apr. 6: Hearing on proposed rules of service for Dorchester Telephone Co.

Apr. 6: Hearing on application of Henry County Telephone Co., Geneseo, for authority to increase rates.

Kansas Corporation Commission

Apr. 2: Hearing on application of D. L. Green to buy and Amelga Morgan to sell Murdock Telephone Exch.

Apr. 9: Hearing on application of the Waco Telephone Co. for authority to operate in the eastern part of Cherokee County and southeastern part of Crawford.

Apr. 9: Hearing on application of Deerfield Telephone Co. for authority to change rates.

Apr. 17: Hearing on application of Summerfield Telephone Co. for authority to change rates.

Apr. 30: Hearing on application of Michigan Valley Mutual Telephone Co. and Palmer Rural Telephone Co. for authority to change rates; and for latter to issue $1,200 of common stock.

Missouri Public Service Commission

Mar. 22: Application filed by J. J. Gripka to sell and L. J. Blinzler to buy Wentworth Telephone Exch.

Mar. 22: Application filed by H. B. Kennett to transfer Waco Telephone Exch. to Waco Telephone Co., Inc.

Nebraska Railway Commission

Apr. 18: Hearing on application of Tri-County Telephone Co., Wolbach, for authority to increase rates.

May 2: Hearing on application of Hamilton County Telephone Co., Aurora, for authority to increase rates.

Oklahoma Corporation Commission

Apr. 20: Hearing on application of Duke Telephone Co. for authority to increase rates.

Pennsylvania Public Utility Commission

Apr. 5-6: Hearing on commission investigation of adequacy of York Telephone & Telegraph Co. service.

Wisconsin Public Service Commission

Apr. 4: Hearings on application of Hager City Telephone Co. and LaValle Telephone Co. for authority to increase rates.

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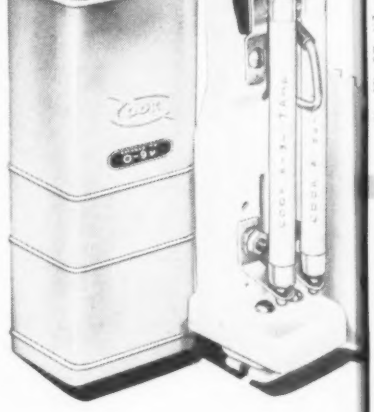
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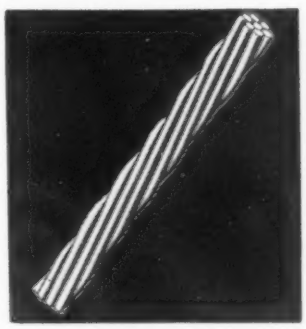

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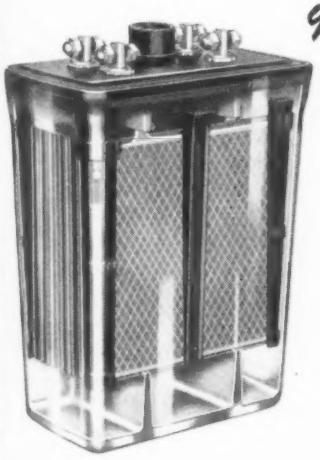

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Japan's Recovery

(Continued from page 17)

will mean that nearly all telephone workers must be replaced with crews from other cities and towns, and that the relief personnel will be gone from their home cities for a month or more.

III. Advance Preparation for Temporary Restoration of Service.

(A) Plant. Prior to raids it is desirable that fire department, police department, and air-raid control organizations agree on what streets are most important, and must be cleared first. In a large raid, there may be obstructions in hundreds of streets. In clearing fallen communications lines, poles, cross-arms, etc., from streets, cooperation with other public utilities is necessary, and must be planned in advance. In Japan the writer saw hundreds of streets that were still blocked a year after the raids.

(B) Traffic. Prepare new force schedules to meet the changed conditions resulting from the bombing. In time of a major raid, many operators will lose their homes, and have to move out of town, or locate new accommodations in the war scarred city—a difficult thing to do. A survey must be made promptly after a raid in order to determine what girls are still available, and to build new force schedules around them. The Japanese found it desirable to notify all employes that if the telephone office where they worked was destroyed, they should report to some pre-designated place for instructions. Unless this precaution is taken, it may be several days before a sufficient number of operators and other employes have been gathered together to give service. The first few days after a raid are especially critical ones and no chances should be taken that might lead to confusion and disorganization.

(C) Commercial. Survey essential users and, where they have been burned out, arrange promptly for restoration, or moving of their service.

(D) Management. Upon receipt of damage survey reports from plant and traffic departments, notify management in nearby cities of the approximate size of relief crews that will be needed from each department, and indicate where they should go.

In considering the examples of air-raid defense measures, it should be remembered that only one illustration has been given for each department for each phase. The Japanese used many different devices in preserving their plant, protecting their employes, and giving service after bombings. Each American telephone company having exchanges in probable target areas must decide for itself what is best in solving its own particular problems. In studying what action to take, it should be remembered that if an air-raid comes the success or failure of telephone service will depend to a large extent upon the thoroughness with which defense has been planned and employes have been trained.

A great many defense measures do not require the expenditure of money for plant which would be of value only during war. With ingenuity and resourcefulness, it should be possible to devise effective plans with a minimum of extra expense. Of utmost importance is drilling employes of all departments in the role each must play when and if "it comes." It takes practice and self-discipline for an operator to don a steel helmet and deliberately sit down at a certain pre-designated switchboard position while her co-workers leave her for the safety of an air-raid shelter. The Japanese learned from trial and error that the operators who could be depended upon to perform this heroic task were those who had

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the longest experience. Girls of this background responded to the air-raid training better than younger employes, and when the air-raid siren screamed, without any sign of hysteria or panic, they took over the dangerous positions they had for weeks before assumed in the mock air-raid drills.

In summary, American telephone companies considering defense plans to protect their personnel and equipment should consider the following points:

(1) Making long-term preparations.
(2) Deciding what measures should be taken immediately before and during attack.
(3) Developing restoration plans in advance of disaster.

And finally, teaching each employe the role he or she is to perform, and drill, drill, and drill them some more so that if "it happens" they will know just what they are to do in an emergency.

Pause that Refreshes

(Continued from page 18)

arrived at and expounded the same fundamental principles for the industry.

I am trying to point out that the basic and fundamental principles upon which our business is founded are so important that we cannot afford to overlook them, and the fact that these principles are repeated over and over again is the one fact that I wish to call to everyone's attention. Since they are constantly being repeated, there is no reason why any of us should not be thoroughly familiar with these principles, and be able at any time to stop for a pause to review the application of those principles to our everyday business.

A few months ago I read an article in one of the national weekly magazines that emphasized the same idea in a different field. That article was written by Earl Blaik, coach of the West Point football team. As you know, that team has ranked among the leaders in the nation for a number of years. Coach Blaik was discussing the difference between college and professional football, and he stated that the main difference was the fact that the professional players did not care to expend the effort required to carry out the fundamentals of football. As a result, the defensive linemen did not charge into the backfield of the opposing team as hard as they could on every play, and the defensive backfield did not expend the

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effort to cover possible pass receivers diligently. Both of these failures led to the completion of a large number of passes and gave the professional teams a high scoring offensive record that could not be obtained in college games, where the defensive teams stuck to the fundamentals of defensive play that made such scoring impossible.

I am not an authority on football, and do not intend to express any personal opinion as to whether or not the college teams are better players than the professionals. However, the views expressed by Coach Blaik do sound logical, and I feel certain that if any of us, whether athletes or business men, forget the fundamentals of our particular field of endeavor very long, we are going to suffer for that lapse in the long run.

You may wonder why I have been speaking about remembering the fundamentals and applying them, yet have made no effort to enumerate those fundamentals for your guidance. I have refrained from any enumeration deliberately, as this article is not intended to be a guide as to how to run your business.

The Letters to Managers I have referred to, many speeches at our association conventions, and many articles that have been published in our trade journals have all expressed the fundamentals far better than I could. My sole purpose is to remind you to think about those fundamentals, as you already know them. Pause at regular intervals in your ordinary routine of work, just as you pause for physical refreshment, and refresh your outlook on your work. Make the pause that refreshes more than just time for a cup of coffee or a soft drink; also pause to inventory your work to see if you are still applying the fundamental principles that are the foundation of all you are attempting to accomplish.

V V

REA Approves $2,499,000 Telephone Loan Allocations

The Rural Electrification Administration approved four telephone loan allocations during the week of Mar. 19 to 23.

The allocations total $2,499,000 and will finance new construction and improvements to provide modern dial service on an area-coverage basis in 12 counties of four states. The largest loan of the week, $1,306,000, was approved to a newly organized cooperative in Oregon, and was the first telephone allocation made in that state.

On Mar. 19, $420,000 was allocated to the Elmore Telephone Co., Brownsville, Ky.

The loan will be used to build 348 miles of new line to bring service for the first time to 1,155 rural subscribers. It also will enable the company to rebuild existing lines and install four new dial exchanges, at Sanders Store, Pine Grove, Bee Springs, and Rocky Hill.

The Elmore company now operates 99 miles of line serving 414 rural subscribers, with magneto type exchanges at Brownsville, Huff, and Park City.

When rehabilitation and new construction are completed, the company will operate 447 miles of line to bring dial service to 1,569 rural subscribers principally in Barren and Edmonson Counties and a small portion of Butler County.

* * *

The Surry Telephone Membership Corporation, a newly organized cooperative with headquarters at Dobson, N. C., on Mar. 20 was allocated $595,000 to build a telephone system to provide area-wide telephone service in in Surry and Stokes counties.

The proposed cooperative, to be financed with REA funds, will comprise 631 miles of line and five dial exchanges, at Pilot Mountain, Level Cross, Dobson, Mount Airy, and West Field, to serve 2,300 member-subscribers.

* * *

The Pioneer Telephone Cooperative, a newly organized telephone cooperative with headquarters at Philomath, Ore., on Mar. 20 received an allocation of $1,306,000.

As a nucleus, the cooperative will acquire all assets of the Coast Telephone Co., Philomath, now serving 913 subscribers on 104 miles of line. The Blachly and Deadwood Telephone Co., serving 55 rural subscribers is to be merged with the new system, and the cooperative also will serve 34 subscribers now receiving magneto service from the Eddyville system of farmer-owned lines.

Funds from the loan will finance construction of 531 miles of new line to serve 2,413 additional subscribers, 14 new dial exchanges, and rehabilitation of the acquired facilities. Another dial exchange will be installed in the building at Walport now owned by the Coast Telephone Co.

The completed cooperative system will provide dial service to 3,415 subscriber-members on 635 miles of line operating in Benton, Lincoln, Lane and Polk counties.

* * *

On Mar. 21, an allocation of $178,000 was made to the Milnor Rural Telephone Co.

The company's present facilities give magneto service to 332 rural subscribers over 142 miles of line. The company will use the REA funds from this allocation to build 83 miles of new line to bring service for the first time to 210 rural subscribers, rebuild 140 miles of existing line, install a new dial exchange at Delamere, and convert the exchange at Milnor to dial.

When new construction and rehabilitation are completed the system will include two unattended exchanges and 225 miles of line to give dial service to 542 rural subscribers.

* * *

We inadvertently failed to report a loan allocation of $352,000 to the Doniphan (Mo.) Telephone Co. made on Feb. 12.

The company now has a magneto exchange at Doniphan, an unattended dial unit at Neelyville, and 86 miles of line serving 347 rural subscribers.

Construction and improvements to be financed with REA funds will include a new building at Doniphan, 355 miles of new line, an unattended dial exchange at Oxly, installation of dial equipment throughout the system, and rebuilding 13 miles of existing line.

When completed, the company will operate 441 miles of line and will serve 1,275 rural subscribers.

In the Nation's Capital

(Continued from page 14)

Drawbacks to CMP

So what is holding up CMP? There are two main reasons for hesitation: (1) Economic dislocation, resulting from a shift into a straight "guns-and-butter" economy. The administration is afraid of it for political reasons—afraid the public will howl and that many little businesses will go under, in the shuffle; (2) the administration fears the red-tape complications, resulting from the flood of forms which could swamp both government and business.

Yet, DPA has to do something. The present DO ratings are getting almost useless. So, DPA officials are proceeding on the assumption that CMP, or something very much like it, is coming along. Delay or indecision could, however, put it behind schedule as much as a whole quarter.

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Public utilities will have a definite place in the DPA classification of essential needs. They will have ratings of their own. If CMP goes into effect on time, NPA will issue, very soon, an over-all statement of instructions—telling industry how CMP works and how to make out the required forms and applications. The timetable on which DPA has been operating ever since the first of the year goes something like this:

Mar. 1 marked the start of the "screening" phase, during which the NPA (for the telephone industry) and Defense Electric Power Administration DEPA (for the electric utilities) and Petroleum Administration for Defense (PAD) (for the gas and oil industries) begin checking requests for estimated metal needed during the third quarter of 1951.

Meanwhile, NPA has been issuing "cutbacks" on the use of such metals for less essential purposes. Apr. 1 was the deadline for the recent order barring the use of aluminum in more than 200 civilian products, mainly for decorative and ornamental purposes. By Apr. 15, most of the important "M" orders will be issued by NPA—cutting the use of aluminum, nickel, copper and other metals to a diminishing percentage of last year's consumption. About this date, Apr. 15, public utilities and other essential civilian producers, as well as munitions contractors, will receive application forms for third quarter materials.

June 1, public utilities will learn through DEPA, PAD, and NPA how much of the three controlled metals their industries will get, for the beginning of CMP, during the third quarter. Soon after that, these government agencies will divide up their allotments of the controlled metals. *On Jul. 1, CMP will officially go into effect.*

More Shake-ups on Controls?

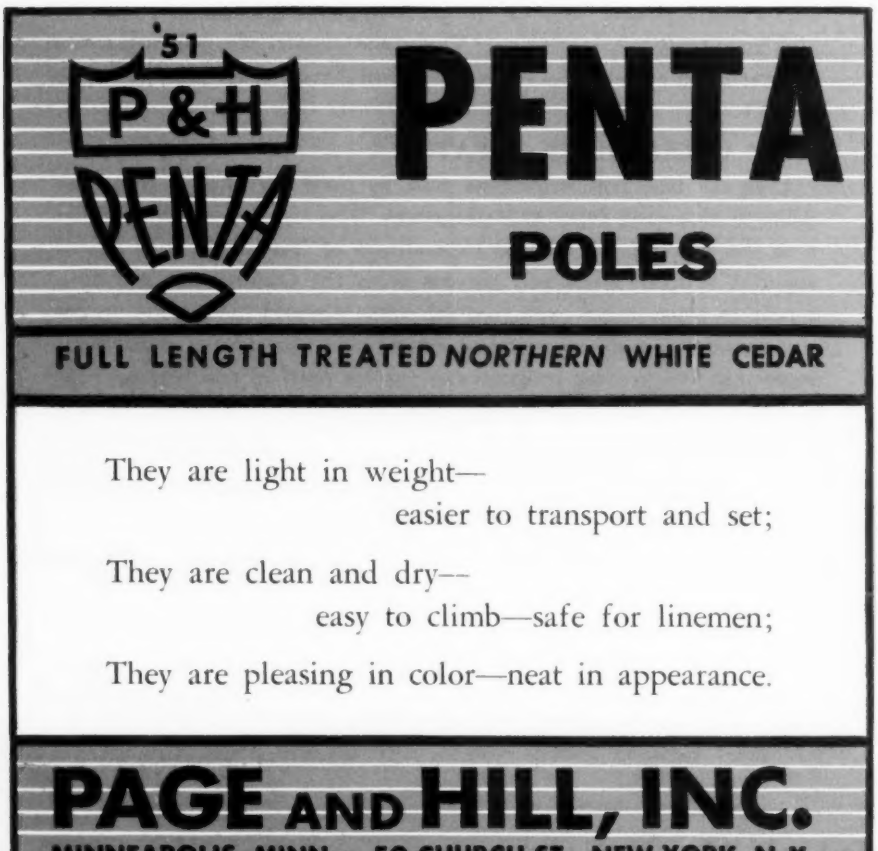
Last week, the long awaited reorganization of the Wage Stabilization Board (WSB) became known. Ever since the labor unions walked out on the whole emergency set-up, the WSB has been virtually impotent. It's not known just what happened at the highest level, between Office of Defense Mobilization Director Wilson and President Truman. But somebody evidently gave Eric Johnston, head of the Economic Stabilization Agency (ESA) the job of wooing the labor leaders back into the picture.

The only way this could be done was by the now familiar story of giving the labor leaders just about what they wanted. The new board which will fix wages will have 18 members. The new members will be weighted sufficiently in favor of labor union wage demands to make the present so-called 10 per cent increase "limit" on wage increases of little serious effect. Of course, the new board will start off talking about a 10 per cent limit. But actually we will see, in the case of the meat packing wages and the textile wages and other pending industry wage cases, one pretext or another used to justify increases going through the 10 per cent ceiling.

Rumors persist that ODM Director Wilson is not happy about this pushing around which his planning is getting these days. His aide, General Clay, has quit already. Rumors also persist that ESA Administrator Johnston has his eye on higher things, and may even be politically ambitious. The implication is that Wilson may throw up the whole thing, in disgust, which is exactly what the labor leaders were hoping for all along. But this observer's hunch is that Wilson is going to sweat out this particular pressure phase. He seems to be trying to put the emergency controls machinery back on the track. Best guess is that he will stick around for a while longer. But it is doubtful if he could take another dose of open revolt by people who don't want to play because they can't make the rules of the game. So, the longer range view may well be for another shake-up. It's all up to President Truman.

At least Wilson has laid the ground work and a fairly clear pattern of what has to be done if we are going to mobilize and preserve an orderly civilian economy. People who come after him will probably have to follow this pattern on DPA activity for the best reason that they would not be smart enough to figure out anything better.

The history of emergency control organization during World War II was one of periodical shift and turnover. Our present defense emergency promises to be a repeat performance. A little less indecision and a little more backbone in the top command might be the needed ingredient to stabilize the situation. But we had the same trouble in the top command during World War II. The political pressure is even greater at present when sacrifices must be made without the compelling incentive of an all-out war. It's the old story of having one's cake and eating it too—a decision which politicians simply loathe.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E. W. Kettering Elected Kellogg Director

Eugene W. Kettering, La Grange, Ill., chief engineer of the Electro-Motive Division, General Motors Corp., was elected a director of the Kellogg Switchboard & Supply Co., Chicago, Ill., at the company's annual stockholders meeting. Mr. Kettering, son of Charles F. Kettering, former head of General Motors research, was elected to fill the vacancy on the Kellogg board caused by the recent death of I. L. Porter, Chicago, who had served as a director during a part of 1950.

Other directors of the Kellogg company are:

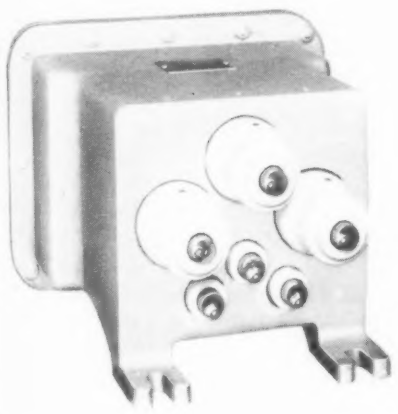
Loren M. Berry, Dayton, Ohio, owner, L. M. Berry & Co.; S. Ashley Guthrie, Chicago, partner, Tenney, Sherman, Rogers & Guthrie, attorneys; William C. Henry, Bellevue, Ohio, president, Northern Ohio Telephone Co.; John P. Hooker, Chicago, partner, Hooker & Randell, realtors and mortgage bankers.

James G. Kellogg, chairman of the board, vice president and assistant secretary; James H. Kellogg, president; C. D. Manning, vice president and secretary, and Harry C. McCluskey, executive vice president and treasurer.

V V

Wide Frequency Insulating Band Produced by Federal

A new wide frequency band telephone-insulating transformer is being produced by Federal Telephone and Radio Corp., Clifton, N. J. This transformer is designed to protect low voltage telephone circuits and equipment —and the maintenance personnel who



work on them — from momentary high potential surges such as are encountered on exterior telephone lines paralleling power circuits (See cut).

Operating at frequencies from 20 to 30,000 cycles, Federal's telephone-insulating transformer is oil-immersed in a lightweight, sealed aluminum case. Adequate expansion space is provided

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to eliminate the need for an air vent, thus preventing the entrance of moisture or other contamination injurious to the insulation or oil, the company says. Lifting rings are incorporated to facilitate handling of the transformer, and the design of the unit permits mounting on any vertical-plane surface. Electrical connections are made to unusually sturdy terminals in ceramic bushings located on the bottom of the transformer case.

The Federal telephone-insulating transformer is designed to withstand a 25,000 volt peak between windings. The transformer's operating level is a plus 18 DBM maximum in the carrier-frequency range. Its insertion loss is 0.5 DB nominal from 300 to 3,000 cycles and 1.75 DB maximum from 3,000 to 30,000 cycles. Bridging and transmission losses at 20 cycles are held to an extremely low value.

V V

Wood Preservation Laboratory Established at Dow Chemical

A wood preservation laboratory has been established within the biochemical research department of The Dow Chemical Co., Dr. D. D. Irish, director, has announced.

Heading the laboratory will be Fred J. Meyer, who has been working on preservatives at the Dow company for the past several years. Ralph M. Gooch will assist, emphasizing the engineering phases of wood treating.

Expanded use of pentachlorophenol as a wood preservative for industry, for the farm, and for the home construction field has resulted in extensive research within the company. In addition, it is introducing a new wood preservative, copper 3-phenylsalicylate, which has been developed for special uses in the wood preservation field, according to Dr. Irish.

Mr. Meyer received his Bachelor of Science degree in chemistry at the University of Michigan in 1939 and immediately joined the Dow company. He is a member of the American Chemical Society and American Wood Preservers Association.

Mr. Gooch was graduated from the University of Michigan in 1946 with a Bachelor of Science degree in chemical engineering and joined the company the same year. He is a member of the American Chemical Society.

On Feb. 28, a 500-line Strowger automatic switchboard was placed in service in the Woodruff exchange of South Carolina Continental Telephone Co., completing a rebuilding and modernization program costing over $100,000, and making possible a station gain of approximately 50 per cent. Shown here, in front of the power switchboard, are E. C. CONRAD, general plant superintendent, and T. H. McCHESNEY, vice president and general manager.

V V

Brown Wood Names Flanagan Sales Manager

S. J. Flanagan, district sales manager, Brown Wood Preserving Co., Louisville, Ky., for several years, has been appointed sales manager.

Mr. Flanagan joined the company in 1948 after serving as an electrical engineer for the Copper Wire Engineering Assocation, Washington, D. C. Prior to service in World War II, he was an electrical engineer for the Commonwealth & Southern Corp., Jackson, Mich.

Mr. Flanagan's offices will be in the Martin Brown Bldg., Louisville.

V V

"The British are trying to narrow their dollar gap. Huh! Who isn't?" — Oil City (Pa.) Derrick.

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Leece-Neville Describes Mobile Radio Alternator and Guide

The Leece-Neville Co. has published "A Guide to Mobile Communications for Civil Defense." This booklet gives valuable information on how two-way mobile radio helps coordinate all operating services into an efficient team. The guide can be obtained free by civil defense and government officials or others concerned by addressing the Leece-Neville Co., Cleveland 14, Ohio.

During an emergency, it is imperative that constant communication be maintained between local civil defense control centers and mobile services. One of the surest methods of continuous communication is two-way mobile radio, according to the company.

With this self-contained and self-powered system, the Civil Defense director has complete control of all services: The chief warden, police, rescue, fire department, medical and taxi.

In order that all civil defense units operate at top efficiency, it is vitally necessary that the electrical power supply in each vehicle be adequate. The conventional direct current generator does not provide sufficient power for the radio transmitter and receiver as well as for the battery, current for lights, siren and other accessories. Installation of a dc generator of higher capacity is not the answer either, since no dc generator starts charging until the motor is speeded up, the company states.

As a result, operation of two-way radio when a vehicle is at rest requires that the motor be kept running rapidly to prevent the battery from running down. The result is heavy consumption of gasoline and excessive motor wear.

The Leece-Neville ac-dc alternator system eliminates these problems entirely because it makes possible high current output at low engine speed. In fact, the alternator system produces 25 to 35 amperes with the engine idling, it is stated.

What does this mean in terms of mobile radio operation? It means that any defense service vehicle equipped with the alternator system and two-way radio can be parked with the engine idling and the radio operating without danger of a run-down battery. It means that gasoline is saved, engine wear is cut down considerably. Most important, it means that the breakdown of communications — or of the vehicle itself—from battery failure is eliminated. And, many operators report, radio reception is far better, the company said.

Of heavy-duty construction, the Leece-Neville alternator system is designed to operate with minimum maintenance. Some alternators have been in use for from 200,000 to 400,000 miles without overhaul, it is reported.

The alternator system consists of three units: The alternator, which produces alternating current; the rectifier, which changes the alternating current to direct current; the regulator, which accurately controls the voltage.

In order that accessories like flood lights, heating pads, instrument sterilizers, etc., may be plugged in, a transformer can be installed in an alternator-equipped vehicle to deliver up to 250 watts of 110 volts ac.

V V

340 Stromberg-Carlson Lines Cut Over at Alfred, N. Y.

Three hundred forty lines of Stromberg-Carlson XY dial equipment, serving approximately 1,100 stations, were cut into service at Alfred, N. Y., for the Allegany Telephone Co. on Feb. 28.

The Alfred exchange is owned and operated by W. B. Harrison, Sr. After purchasing it about two years ago, Mr. Harrison launched his program of conversion to dial equipment. The program has gone ahead on schedule, with the cut-over at Andover, N. Y., also operated by the Allegany Telephone Co., planned for the near future.

Among those attending the cut-over were Donald C. MacMillan, Rochester branch manager of the telephone division of the Stromberg-Carlson Co., David Balis of the installation department of the company, and Mr. Lee Denison of the New York Telephone Co.

V V

Three Managerial Changes Announced by Graybar

Major changes in the top personnel of the Graybar Electric Co.'s Chicago district were announced recently by G. J. Cossmann, district manager.

Effective immediately, district sales manager W. E. Guy is advanced to assistant district manager. Des Moines branch manager L. C. Esthus will take over the post vacated by Mr. Guy and D. M. Hitchcock of San Francisco will be transferred to Des Moines to succeed Mr. Esthus.

V V

"Mr. Hoover wants Congress to recover its authority over starting wars by having it exercise control over the nation's purse strings. He doesn't propose repudiation of treaties, or obligations; no retreat, no withdrawal from the position we have taken." —Islip (N. Y.) Press.

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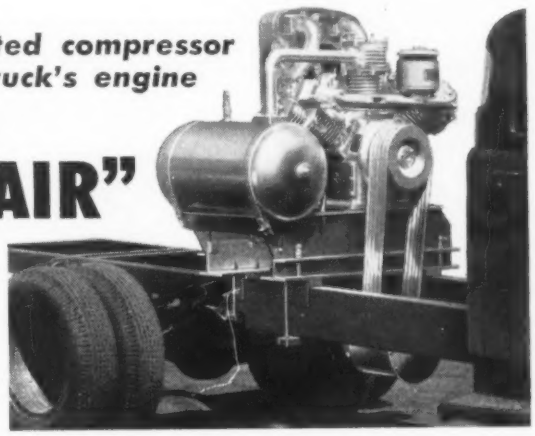

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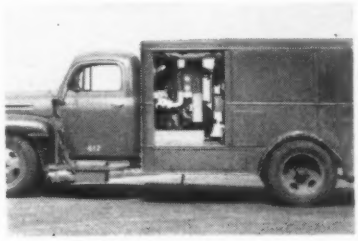

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Serving the West
POLE LINE MATERIAL & SPECIALTIES
JACK PRUZAN CO.
109 Jackson St. Seattle 4, Wash.
Service—Dependability—Economy
The only independently owned Seattle Pole Line Hardware distributor

BARGAINS
MDF Protectors

Slightly Used
AE Type 676 SB-61

25 pr. group complete with heat coils and discharge blocks 9⅜" long, mounting hole centers 6⅜" .....Price $19.50

W.E. 1269A, 20 pr. group less heat coils and discharge blocks. .....$9.50 ea.

Cook 20 pr. group preceding No. 100 type complete with No. 1232 self-soldering heat coils and carbon discharge blocks equipped with alarm circuits..... .....$9.50 ea.

The TELECTRIC Co.
1218 Venice Boulevard
Los Angeles 6, Calif.
Richmond 2249

DROPS and JACKS
(COMBINED)

NEW STROMBERG-CARLSON

No. 19-B ON NO. D-3226 MTG.

FIVE PER STRIP

These drops and jacks are designed to be used in place of W.E. Co. No. 22-C type on 82-B mtg. and will take W.E. No. 47-A plug or equivalent.

IN STOCK FOR IMMEDIATE SHIPMENT

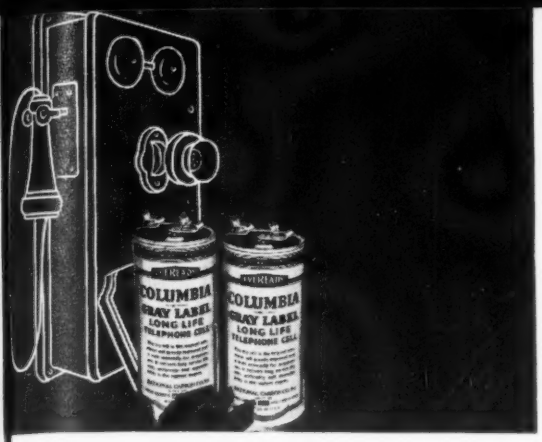
BUCKEYE TELEPHONE and SUPPLY CO.
COLUMBUS 6, OHIO

IN STOCK

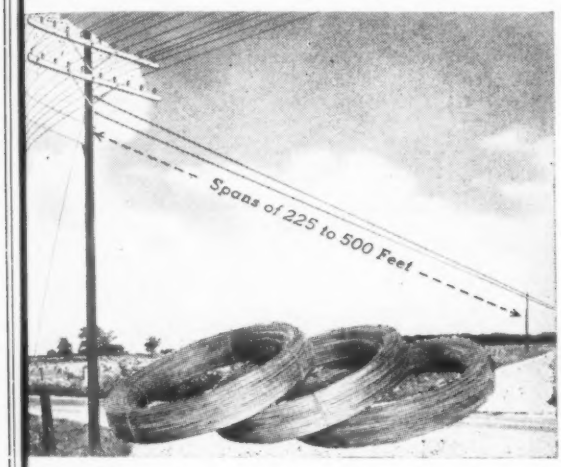
** Galvanized Strand, $\frac{5}{16}$"—7 wire, Utilities grade, on 2,500 ft. reels .....$39.93/M ft.
** Telex, 17-2, parallel, copper, Buna-S jacketed, direct burial or drop wire, on ½ mile reels, UNUSED .....$10.00/M ft.
** No. 22/2, tw. pr., copper, rubber ins., olive green braided inside wire .....$12.00/M ft.
** No. 22/2, tw. pr., copper, enameled, silk & cotton ins., lacquered switchboard or frame wire on W.E. metal spools, type D-2 .....$7.15/M ft.
SINGLE CONDUCTOR $4.00/M ft.
** No. 22/3, twisted, copper, tinned, laytex & plastic ins., switchboard or frame or jumper wire, Western Electric 1,500 ft. coils, Red/White/Black..$9.00/M ft.

All Material New, Fully Guaranteed.
Terms: Net; FOB New York.
Subject to prior sale.

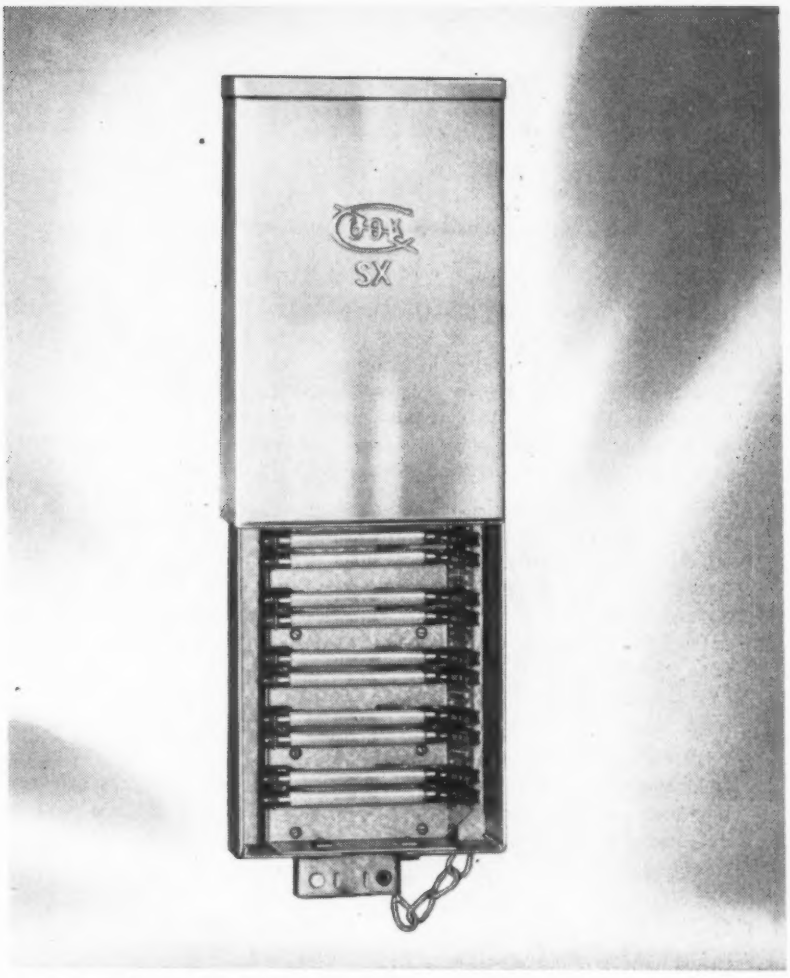
TELE-WIRE SUPPLY CO., INC.
Distributors of Telephone Supplies
136 Maiden Lane New York 38, N. Y.
WHitehall 3-5865



rable, Economical! "Eveready" "Columbia" "Gray Label" cells give you dependability, plus economy thru higher tained voltage and longer life. Made by NATIONAL RBON DIVISION, UNION CARBIDE AND CARBON RP. Specify them to assure highest operating efficiency.



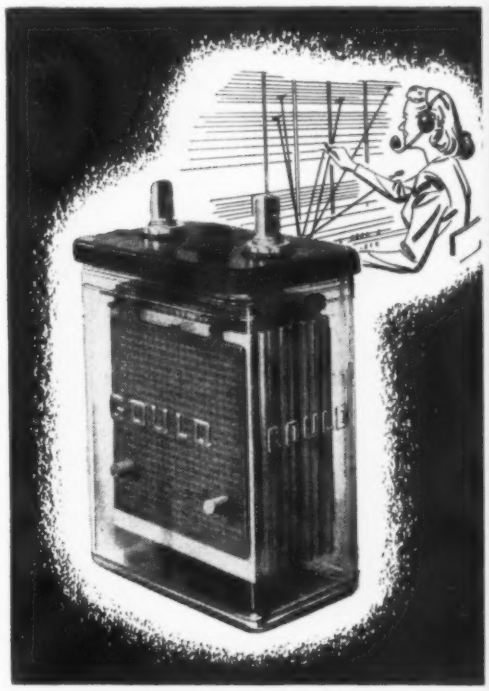
ve Three Ways . . . on materials, man-hours, and mainte- nce with INDIANA STEEL & WIRE CO.'s Crapo TL-85 and HTL-135 Line Wire. Galvanized by the famous apo Galvanizing Process. It is protected with a heavy, ctile, tightly-adherent coating of zinc.



Insures High Insulation and Moisture-Proof Seal for cable, because the cable enters through a well in which solder is puddled so that a strong, moisture-proof connection is made. Made by COOK ELECTRIC COMPANY, the SX Cable Terminal may be used where maximum distribution is four to six pairs and where protection is required.

"Trouble Shooting" Expense!—Install PARA- N ELECTRIC COMPANY'S top quality wire. Great tensile strength, high con- ivity, and perfect adhesion are some of its ities. This drop wire available in Copper- or High Tensile BB Bronze.

It Regulates—It Compensates. Flotrol Battery Chargers assure substantial power savings by low standby losses combined with higher overall efficiency. An automatic charger of the floating charge type. All components in one cabinet—Made by LORAIN PRODUCTS CORP.



Outstanding Battery Performance is yours when you choose Gould Planté Batteries. Thick, grooved, pure lead positive plates give many years of trouble-free service! Made by GOULD-NATIONAL BATTERIES, INC., a leader in their field. They're the finest money can buy.

KELLOGG SWITCHBOARD AND SUPPLY COMPANY